75

CASS Examples

Astronomer	λ	Grating	Date	
KK	5140Å	1800	Nov 24/25	
SrT	3950Å	1800+1200	Nov 25	+ NovCas93 6563Å 831 hr/mm Feb17/18/94
Hlw	4100	1800	Nov 28	
KK	4200	600	Dec 1	
Bln	4476	1800	Dec 11	
Hlw	4940-7000	1800	Dec 19	General mapping
Bln	3730	1800	Dec 11/12/93	
Hlw	4936-6630	1800	Dec 23/24	Several in between regions - Observing Stars
Tn/Taylor	4865 Hβ	1800	Dec 26/27	
Hlw	5303	1800	Dec 27/28	
KK	4340	600	Feb 10/11/94	Fiber Fed P+S
KK	3990	x=1200 l/mm	Feb 10-12/94	Echelle

3

Spectr. Temp.

Focus .....

Spectr. Temp.

Exp. Mtr.	Sec

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions .....

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality

David Dunlop Observatory

74" logbook

Vol 75

Plate 16943 – 20408

Nov 1993 – March 1994

5

Thurs / Fri

Date 1993 Nov 11/12 Observers MKi / JTu / HHu

Emulsion Batches:

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.....

CSS Time synchronized to WWV Time

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC16943ft	BIAS(4)					0 0	+41°		
44	Comp							Featr Clear	40s
45	Flat							Tung ¼ ap	8s
~~45~~-~~46~~	20× V471 Tau	03 44 43	+16 57 06	023503					45s
47-66	"	"	"	023952					45s
CC 67-86	"	"	"	025822					45s
972	Bias (4)								
973	Flat							Tung X4 A1	8

Spectr. Temp.

Focus 6:

Spectr. Temp.

Exp. Mir. ~8

(Oven

Spectr. Temp. ..... Dome Temp./Hum. +1.4°C ... 72.6° Transparency Conditions ... V. hazy - Cloudy ... 6

Focus .... 6.85 .....

Spectr. Temp. ..... Dome Temp./Hum. +3.9°C 73% 90 CGAIN CCDT → -100°C

5500 7 1024 8 1 CCDFMT

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	pointed at detector	250u	6563Å	1ci			
					1800/inch G=6035						
~8	poor	9.4 - 9.7	KOI +wd					5ci	Mki		
								6ci			
(Overwrote deleted stellar from cc16972]								6ci		@16971 clouds started in deliberately of course	

7 pg#1 Fri / Sat

Date 1993 Mar 12/13 Observers MK / IT

Emulsion Batches:

CSS only < 2 secs ahead of WWV Time

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
CC16974 75	Comp / Stellar	Focus		1733 ~~2206~~		0 13E	+41	FeAr Clear	40/50	
CC16976	BIAS(4)									
77	Comp							FeAr Clear	40s	
78	HD177724	190049	+13 4300	174644		01 55 W			90s	25K
79	Comp									
80	FLAT					01 58W	+14°	Tung 1/4	85s	
81	Comp							FeAr Clear	40	
82	HD 222368	23 3448	+05 05	175928		0226E			14s	4000
83	Comp							FeAr Clear	40	
CG30149 52	HD 207754	214612	+43 25	Seeing Tests	1819				Int 67ms	
CG30153 ~~54~~ 54	HD 207754 ~~BIAS(4)~~	"		"		18 2414			133ms	
~~54~~ 84	Comp after 20m slit Reinserted							FeAr Clear	40s	
85	HD 222368	23 3448	+05 05		18 4742	0137E			15s	
86	Comp							FeAr Clear	40	
87	BIAS(4)									
~~88~~	~~FLAT~~									

Spectr. Temp.
Focus ... 6:
Spectr. Temp.

Spectr. Temp. ..... Dome Temp./Hum. 13.8°C ... 53% Transparency Conditions .. Fine – incr cloud
Focus .... 6.85 ..... FANS on by 17EST
Spectr. Temp. ..... Dome Temp./Hum. 11.5°C ... 58.3% CCDT → -100° 90CGAIN

Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800 l/mm @ 6035	25u decker	6563Å	3/4	E 670 Row stellar c.2Red	Te NORMALIZATN encoders on HR8028	
								55	0 0 7 1024 8 1 CCDFMT tonight		
40s								5c			
90s	≈5K	poor	2.99	AOV ann				6c	* Telluric Std	MAX ≈ 11K ADU 1.27 Air MASS of star	
								7			
8sec								8			
40								9			
146s	4000	poor	4.13 ~~4.83~~	F7V				10	* Std vel	MAX ≈ 7K ADU	
40								11c.			
Int 67 mis	I	poor		Int = 295, G1 mode			note, decker removed for seeing tests.			NE FAN ON only Done West, no wind	
133 mis				* Slit Removed then Reinserted.						Was going to use pointer with 300u Slit, but it's too loose in slot	
40s					Pointer decker 25u			13			
150			4.83	F7V				14	* Std vel	Repeat	
40								15			
								1			

9 #2

Date 1993 Nov 12/13 Observers MKi ITa

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC16988	Comp							FeAr Clear	40
89	HD177724	19 0049	+13 43 00	19 1248		03 21W			76
990	Comp							FeAr clear	40s
991	FLAT							TUNG Ap 1/4	8s
992	BIAS(4)					@3:25W	+13°		
993	FLAT					05 05E		TUNG Ap 1/4	8
994	BIAS(4)								
995	Comp							FeAr Clear	40s
996							Dec circle		
CC17015	V471 TAU	03 44 43	+16 57 06	19		04 32E	+17 20		55sec
CC17016	"	"	"	20 0719					65sec
17055									
17056	BIAS(4)								
57	Comp							FeAr Clear	40s
58	FLAT							TUNG Ap 1/4	8s
CC 17059–17118	V471 TAU			20:53:08		02 43E			
119	BIAS(4)								

Spectr. Temp. ..... Focus ..... Spectr. Temp. .....

Exp. Mtr. | Se

coach rate 7 up 5 down

Spectr. Temp. ..... Dome Temp./Hum. +1.2°C 54.5% Transparency Conditions ... Hazy → part cloudy

Focus ..... 6.85 .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Pg Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
						250u	6563Å	·			
	6"	2.99	KOV 4mm					6c;	Telluric Std	Repeat 1.63 AIR MASS 6300 ADU MAX	
								16c;			
								2c;			
								1c;			
								17c;			
each exp 7–10 sec TOTAL for 40 frames	4"	9.4 –9.7	KOV +wd					12c;	Mk. pgm	20 frames using STAR 555. BAT	
								18c;	" "	40 frames, (Hazy)	
								1c;	Star 55s	Cycle Length 63 sec	
								19c;			
								20			
								1c.		Mark at 21:03	
										1.38 AIR MASS at end	

11 Pg #3

Date 1993 Nov 12/13 Observers mki/JTn

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc17120	FLAT							THNG Hg 1/4	8
21	Comp							FeAr Clear	40s
cc17122 – 181	V471 TAU	034443	+16 5706	22: 00: 53		01 35 E		Each	55sec
182	BIAS(4)								
183	Comp							FeAr Clear	40s
184	FLAT							THNG Hg 1/4	8s
185 → 244	V471 TAU	03 44 43	+16 5706	230645		00 29E		each	55 sec
cc17245	BIAS(4)								
246	Comp							FeAr Clear	40s
247	FLAT							THNG Hg 1/4	8s
→ 248	V471 TAU	03 44 43	+16 5706	00 14 41					55 sec
~~247~~ → 307	"					00 39 5W			
308	BIAS(4)								
309	FLAT							THNG Hg 1/4	8s
310	Comp							FeAr Clear	40

Spectr. Temp. ..... Dome Temp./Hum. -00.3 64.5% Transparency Conditions .. Part cloudy 12

Focus ... 6-85 .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Pix. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800/1/mm G=6035	250μ pointers	6563Å			11 K ADU max	
~~Date~~ n 25/exp	3"-4"	9.4 -9.7	KO V +wcf					24c.	mki pgm	60 frames in batch	
								1c.			
								25c.			
								26c.			
Exp meter failure with sp control								27c.	mki pgm	60 frames.	
								28			
								29			
								30	mki pgm	[1st one only last 30 secs of 35 secs]	
	4"							n			
								1c.			
								31			
								32			

B Pg #4

Date 1993 Nov 12/13 Observers M.K. / J.Tn

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC17311 → 340	V471 TAU	03 44 43	+16 57 08	01 22 45		01 16 W			55s
341 → 349	"	"	"	01 55 15		01 50 W			65s
350	BIAS(4)							Feat	
352	Comp							Clear	40s
351	FLAT.							Tung Ap 1/4	8s
	Comp								
	HD 67901	10 03 03	+12 27 0						

Spectr. Temp.
Focus 6
Spectr. Temp.

Exp. Mtr. | S

Spectr. Temp. ..... Dome Temp./Hum. -0.5°C 74.5% Transparency Conditions ... P.C.R.T. Cloudy ... 14

Focus ..... 6.85 .....

Spectr. Temp. ..... Dome Temp./Hum. .....

CCDT = -102.0°C

Exp. Mtr.	Seeing	Dg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
55 Reliable	3"-4"	9.4 -9.7	KOV + w d	CH55 CCD	1800 l/mm G=6035	35μ	6.563Å	33c;	Mk: pgm	30 FRAMES	
53	Last one kept. (1 clear hole. Others deleted)							34c;		Thick cloud by 02:03	
43								1c: 35c;			
83								36c;		Solid cloud	
		P36 B7V							Telluric Std.		
					All to Perseus & WORM						
Note in Sp	Nov 15, Upon opening spectrograph, I found HARTMAN MASK in "Comp" posn. NORTH posn. It occurs to me that the severe Contr failure noted @ 23:10 Nov 12/13, may have also moved mask to "Comp" posn, without our Realizatn										
										TN	

Pg ① 15 Mon/Tues

Date 1993 Nov 15/16.. Observers [Rm.].Tm.I.Hlw.....

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc17353	BIAS(4)								
54 55	Focus comp Stellar Hartmann Pairs			22 30					30/38
56	Comp							FeAr Clear	60sec
57	HD214975	22 36 55	+56 18 24	22 47		04 00W			1803
58	Comp							FeAr Clear	60sec
59	~~Comp HD214975 HD214975~~	22 36 55	+56 18 24	23 2449		04 38W			1804
60	Comp							FeAr Clear	60sec
61-63	FLATS x3					04 40W	+56 45	TH11G Ap 1/2	5sec
64	Bias (4)								
65	Comp							FeAr Clear	60 s
66	HD237190	03 46 10	+58 21 18	00:14:50		00 14W	+58 38		1805s
67	Comp					[redacted]		FeAr Clear	60sec
68	HD237190	03 46 10	+58 21 18	00:47:51		00 48W			1800s
69	Comp							FeAr Clear	60sec
cg30155-58	HD29587	04 34 30	+41 57 00						67ms
59-60	HD29587	"	"						133ms

Spectr. Temp.
Focus.....
Spectr. Temp.

Exp. Mtr	Sc
1200	
1018	
1366	
1150	

Spectr. Temp. ..... Dome Temp./Hum. +4.4°C ... 70% Transparency Conditions ... Clearing ... 16

Focus ... 6682 ...

Spectr. Temp. ..... Dome Temp./Hum. +2.5°C ... 70.8%H CCDT → -100°C 90 CGAIN

Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
				CASS CCD	1800l/mm G=5410	300μ	6400Å	1ci			
								3/4	Focus Test	right in focus at center plate	
								5		(catwalk) Humidex: 879. @1730	
1200	4"	8.40	GOIb					6	Rm pgm	(Cepheid) 927. @ 1845	
								7		(<200/1 S/N) 939. @ 2300	
1018		8.40	GOIb					6ci	Rm pgm.	959. @ 0200	
								7ci			
								8ci		Dk max	
								9ci			
1066	Real BAD >8"	8.64	GOIb					10ci	Rm pgm		
								9ci			
1150	REAL Bad (I mean BAD)	8.64	GOIb					11ci	Rm pgm		
								12ci	"		
		7.29	dG2						Seeing Test	Intensifier 304	
		7.29	dG2						Seeing Test	" 282	

pg ②

17

Date Nov. 15/16 1993 Observers [Rm]/Hlw/Tn

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	S
cc17370	Bias (4)										
71	Comp						clear	FeAr	60s		
72	HD29587	04 34 30	41 57 00	01:37:04					1200s	3070	
73	Comp							FeAr Clear	60s		
74	Comp							"	"		
75	4 SZ TAU	04 31 26	18 20 24	02 12 54		01 10 W			600s	3200	
76	Comp							FeAr Clear	60s		
77-79	3× Flats							Tung Yz Amp	5 sec		
80	Bias (4)										
81	Comp							FeAr Clear	60s		
82	HD 30282	04 41 05	+36 32 06	02 42 57		01 40 W			1200s	3020	
83	Comp							FeAr Clear	60s		
84	Comp							"	"		
85	HD 44990	06 19 48	+7 08	03 11 53		+0 19			469	3500	
86	Comp										
87	BIAS (4)										

Spectr. Temp. ..... Dome Temp./Hum. +2.3/71.8% Transparency Conditions ..... Clear

Focus ..... 6.82 .....

Spectr. Temp. ..... Dome Temp./Hum. +2.0/71.0%

Exp. Mtr.	Seeing	~~Pig.~~ Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800/ 5910	300 μ	6400 Å				
60											
200	3070		7.29	dG2				14c	Std Vel.	~250 SNR	
60								15c			
4								15c			
1500	3200	5"	6.33 -6.75	F5Ib -F9.5Ib				16c	Rm pgm		
40								17c			
5											
40								18			
120	3020	4"	~~7.9~~ -8.8	F6 -G1				19	Rm pgm	~270 SNR	
60								20			
"			~~9.1~~ 10.6					21			
40	3500		5.6 -6.6	F7 -K1				22	Rm pgm	phase = .23 should be V = 6.0	
								23			

Pg#3 19

Date 1.1.93. Nov 15/16.... Observers [Rm]..Tm../.H.H...

Emulsion Batches:

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Spectr. Temp.

Focus.....

Spectr. Temp.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Sec
~~CC17388~~	~~Comp~~							FeAr Clear			
CC1788/89	Comp/Stellar	Hartman						FeAr Clear	30/3		

Spectr. Temp. ..... Dome Temp./Hum. +20 71%H Transparency Conditions Fine

Focus 6.82

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
						30μ	6400Å				
								3/4	Focus Test	Done while topping up. 1.8°C seems OK too	
		All to Perseus & Worm.									

Comparison Filter Exp

pg ① 2\

Date Nov 17/18 1993 Observers Mki / HIW

Emulsion Batches:
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Spectr. Temp. .....
Focus .....
Spectr. Temp. .....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
cc17390	Bias (4)		Note: 386 clock # is 7 seconds							
91/92	Comp/stellar		ahead of		WWF			FeAr Clear	30/40	
93	Comp							FeAr Clear	40s	
394-453	60× V471 Tau	03 44 43	+16 57 06	22:19:24	beginning time for last 23:17:55	-1:00 E	+17 15		52s	
454	Comp							"	40s	
455	Bias (4)									
456	Flat							Tung ¼ Ap	8s	
457-497	41× V471 Tau	03 44 43	+16 57 06	23:29:06	beginning of last 00:08:45				52s	
498	Comp							FeNe clear	40s	
499	Bias (4)									
500	Flat							Tung ¼ Ap	8s	

Spectr. Temp. ..... Dome Temp./Hum. +4.5 / 75.8% Transparency Conditions Clearing 22

Focus ..... 6.86 .....

Spectr. Temp. ..... Dome Temp./Hum. .....

ccd temp = -100°C cgain = 90

550 0 7 1024 8 1 ccdfmt

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800 l/mm G=6035	250μ with dekker	6563Å	1 ci		ccd temp reading -10	1.9
								3/4	Focus Test	Dome Temp = +4.1°C	
								5 ci		Setting = 6.86	
~12 counts in 52 sec. → 800 at end	Okay 3-4" counts end	9.4 -9.7	KO V +w.d.					6 ci	Mki	After very 1st obs, window exitted then entered on 386. -May have affected duration- between 1st & 2nd obs.	
								5 ci			
								1 ci			
								7 ci		ADU max = ~12000	
460 .		9.4 -9.7	KO V +w.d.					7 ci	Mki	Closed up 00 08 Clouds at 2355	
								5 ci		Humidity Close	
										: 79.5% in dome	
										: 96 % on catwalk	
	All to Perseus & Worm.									: shutters dripping	
										→ 97% on catwalk	
										@ 0200 everything dripping	

pg ① 23 Thurs/Fri

Date Nov. 18/19 1993. Observers Mki / Hlw / Tn

Emulsion Batches: .....

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CSS386 Clock Reset before exp. 17506

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr	S
cc17501	Bias (4)										
502/503	Comp/Stellar							FeAr Clear	30/40		
504	Flat					-0:15 E	+44.17	Tung ¼ Ap	8s		
505	Comp							FeAr Clear	40s		
506	HD177724	19 00 49	+13 42 53	17:37:30					49s	300	
507	Comp							FeAr Clear	40s		
508	Comp							"	40s		
509	HD222368	23 34 48	+5:05:00	17:51:01			Declincle 05 41		192s	100	
510	Comp							"	40s		
CG30164	HD207754	21 46 12	+43 25 00					4x	.067s		
CG30165-66	"	"	"	=1811		0 0		2x	1 1/3		
cc17511	BIAS(4)										
512	Flat					+0:12	+43:51	Tung ¼ Ap	8sec		
513	Comp							FeAr Clear	40s		
514	FIAT @	V471 Tau posn									

Spectr. Temp. ..... Dome Temp./Hum. +4.8°C/56.2% Transparency Conditions clear ... some scattered clouds 24

Focus 6.86

Spectr. Temp. ..... Dome Temp./Hum. +3.4°C / 63.7%

Both FANS on before 17 EST

550 0 7 1024 8 1 ccdfmt

Exp. Mtr.	Seeing	~~Ptg~~ √ Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	800 ℓ/mm G=6035	250μ with dekker	Clambda = 6563Å	1ci		cgain = 90 ccd temp = -100°C	
								3/4	Focus Test		
								7ci			
								5ci			
5300		2.99	A0V					8ci	Telluric		
								9ci		← Up to and including this comp 386 time was ahead 8 seconds. Now + is set to exact WWF time.	
								10ci			
5100		4.13	F7V					11ci	Std. Vel.		
								12ci			
	OK	7.32	K0III	SEFAN off by 17:37					Seeing Tests	Dome T = +4.0°C Dome west, no wind	
									" "		
								1ci			
								7ci			
								7ci			

V5

pyo2

Date Nov. 18/19 1993 Observers MKI / Tn / Hla

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc17 515-574	60× V 471 Tauri	03 44 43	+16 57 06	18 [illegible]:50:00		04 26 E		each	62sec
575	BIAS(4)								
576	Comp							Feather Clear	40s
77	FLAT							Ap=1/4	8s
cc17578 → 637	60× V471 Tau	03 42 43	+16 57 06	19 55 28		03:18 E		each	52sec
638	Bias(4)								
639	Flat							Ap=1/4 Tiang	8s
640	Comp							Feather Clear	40
641- 700	60× V471 Tauri	03 44 43	+16 57 06	21:01:01	end Exp Start Time 21 59 40	02 13 E		each	32s
701	BIAS(4)								
707	Comp							Feather Clear	40s
703	FLAT							Tiang Ap 1/4	8s
cc17704 -cc17763	60× V471 Tau	03 44 43	+16 57 06	22 07 39		01 07 E			62s
cc17764	BIAS(4)								
765	FLAT							Tiang Ap 1/4	8.32

Spectr. Temp.
Focus 6
Spectr. Temp.

Exp. Mtr.	Se
455	3
~700	2
1110	2
716	

Spectr. Temp. ..... Dome Temp./Hum. +3.3°C / 63.7% Transparency Conditions .. Part. Cloudy .....

Focus ..... 6.86 .....

Spectr. Temp. ..... Dome Temp./Hum. +2.5°C / 72.6% @ 2130

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
TOTAL 465	3"	9.4 -9.7	KO + w.l.	CASS CCD	1800 l/mm G=6035	250μ w.th dekker	clamda = 6563Å	6c	Mki	60 FRAMES Started @ ~~HA~~ -5:25	
								1c		through Air-mass = 3.2	
								9c		Catwalk Humidity:	
								10c		81% @ 1900	
~700	2-3"	"	"					11c	11k pgm	90% @ 2100 thin cloud mostly	
								1c		↓ ↓	
								12c		91% @ 2130	
								13c		94% @ 2300	
1100	2"	"	"					14c	Mki	Faint star seen 15" west still thin cloud at times	
								1c		Dome T = +2.3°C	
								15c			
								16c		11k 1.0" max	
786								17c	11k pgm		
								1c			
								18c			

27 pg #3

Date Nov. 18/19/93 Observers Mtt. / Tu. / Hsu

Emulsion Batches:
.....
.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc17766	Comp							FeAr clear	40s
767-800	V471 Tauri	03 44 43	16 57 06	23:12:21				each	52s
cc17801	BIAS(4)			00 12 42					
02	Comp					00 25E	+17 14	FeAr clear	40s
03	FLAT					"	"	TUNG Ap V4	8s

Spectr. Temp
Focus ... 6
Spectr. Temp

Exp Mtr.

Spectr. Temp. ..... Dome Temp./Hum. +2.3°C 76% Transparency Conditions Incr. cloud 26

Focus 6.86

Spectr. Temp. ..... Dome Temp./Hum. +2.0°C 80%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
								19ci		95% Humidity on catwalk	2330
reset after 1st twenty obs								20ci	Mki	-We are looking through very thick haze. counts are low.	
	Dome shutters closed @ 2346						17800	(Last file kept)			
								21ci			
								22ci			
			Alt to worms & Perseus								

pg=29

Date 1993 Nov 20/21 Observers [Blu]..In.I.H.W.....

Emulsion Batches:
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.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Spectr. Temp. / Focus / Spectr. Temp.
cc17804	Bias (4)										
805/806	Comp/ Stellar	Hartman						FeAr clear	30/40		T:-1
807	Comp							FeAr clear	60s		
808	HD177724	19 00 49	+13 42 53	17 52 09					147	20000	
809	Comp							"	60s		
810	Comp							"	60s		
~~811~~ 811	BD+26 3835 DR Vul	20 09 36	+26 2700	18 03 52		02 18W			2700s	1975	
812	Comp							FeAr Clear	60s		
813	BD+26 3835 DR Vul	20 09 36	+26 2700	18 51 35		03:05:30W			2700	1650	
814	Comp							FeAr Clear	60s		
815	Comp							"	"		
816	HD1061	00 09 50	+8 :16: 00	19: 43: 44		0022E			1559	1000	
817	Comp							FeAr Clear	60		
818	BIAS(4)										
819	HD1061	00 09 50	+8 16 00	20 1453		0015W			1911	1790	
820	comp							FeAr Clear	60s		

Spectr. Temp. ..... Dome Temp./Hum. -1.1°C 59% Transparency Conditions ... PLNT. UAR ... 50

Focus . 6.90 .....

Spectr. Temp. ..... Dome Temp./Hum. ..... CCDT → -100C 90C GAIN

480 0 50 1024 4 1 ccdfmt

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800l/mm G=6055	300μ	~~6563~~ Å 6600Å	1ci		Both FANS on by 17EST SE Tunnel off 17:50	
T=-1.3°C								3/4ci	Focus Test		
								4ci			
20,000		V= 2.99	AOV					5ci	Telluric		
								6ci			
								7ci			
1975	4-5"	8.6 -9.3	B8					8ci	Sp-Bin Bin	20K photons ΣAvg whole Hg emission in Hα & Hβ lines + narrow ABS @ 6620Å	190/1
								9ci			
1650	5"							10ci	Sp-Bin Bin Repeat	Some clouds forlord	
								11			
								12			
10000	5"	6.15	A9s					13	B/n pgm	~~300~~ >300/1 It's pretty cloudy now.	
								14ci			
								1ci			
8790		6.15	A9s					15ci	B/n pgm repeat	Cloud	
								16			

#2 3/1

Date Nov 20/21 1993 Observers [BIn]/Tn/Hlw

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr	Spectr. Temp. / Focus / Spectr. Temp.
CC17821	Comp							FeAr Clear	60s		
822	HD 5737	00 53 47	-29 53 52	21 30 41		00 26 W			60s	10500	
823	Comp								60s		
824	BIAS(4)										
825	Comp							FeAr clear	60s		
26	HD19832	03 06 17	+26 52 48	21:50:21					900s	10500	
27	Comp							"	60		
28	Comp										
29	HD21699	03 25 06	+47 41 00	22:21:19					539	10K	
30	Comp										
31	Bias(4)										
32-37	6×Flat							Tung Yi Ae	4s		
38	Comp							FeAr clear	60s		
39	HD25642	03 59 08	+50 04 48	22 48 20		01 27E			447s	21K	
40	Comp							FeAr clear	60s		

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions . P.C.R.T. = mostly cloudy

Focus ... 6.90 .....

Spectr. Temp. ..... Dome Temp./Hum. ... −4.0°C / 68.4%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					1800 l/mm G=6055	300u	6600Å	17			
10000	8"							18	Blu pgm		
								19			
								20			
10000		V= 5.79	B8(Sc)					21	Blu		
								22			
								23			
10 K		B= 5.36	B8 III p					24	Blu pgm.		
								25			
								26			
								27			
21 K		V= 4.29	A0 IV					28	tellaric std.	Ca II H Line 1.0Å A in 10ASS	
								29			

pg 3 33

Date Nov 20/21 1993 Observers [Bln]/Tn/HW

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc17841	Comp							FeAr Clear	60s
42	HD21686	03 24 56	+10 59 37	23 08 15					600s
43	Comp							"	60s
44	Bias (4)								
45-47	3×Flats								
48/49	Comp/Stellar	Hartman					Zenith	Fe Ar Clear	30/40
	Nov 22/93	Focus	Set vs shift exps		Time (22-22:50)	00 00	+41°		
cc17850/51	Comp/Stellar	Hartman						Fe Ne clear	40/65
852	FLAT	"					Clear	Tung	70s
53/54	Comp/Stellar							Fe Ne Clear	40/75
55	FLAT						clear	Tung Clear	70
56	BIAS(4)								
57/58	Comp/stellar						clear	Fe Ar	60/60
59/60	comp/stellar							Fe Ar	60/60
61	FLAT						Hp 1/4	Tung	55

Spectr. Temp.
Focus ... 69
Spectr. Temp.

Exp Mtr | Sec

250

Time T=+60°

Set 7
Set 6
Set 6
6
Set 7
Set 6
1 6

Spectr. Temp. ..... Dome Temp./Hum. ...−3.9°C/68.4% Transparency Conditions ..Clear..., Clouds here and there

Focus ...6.90.....

Spectr. Temp. ..... Dome Temp./Hum. .....

still ≈ 6000Å ±100 change from previous

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800 l/mm G=6055	300 μm	6563	36		90% Humidity 9° Cutwalk	
12,500	POOR	V= 5.4	AOIV					30	Telluric	1.20 Airmass	
								~~49~~ 6			
									Focus Test,	Stellar Right on center stellar Blue & Blue end	
Dome T=+6.0°C		All to WORM		5 Persons / Temp							
Set	7.30			G=4220	1800 l/mm ~~G=5910~~	300u Full	3960Å				
~~Set 6.70~~		Set 7.30		"	"	"	"				
Set	6.70			"	"	"	"				
	6.70										
Set	7.30	T=+5.8°C		G=5910	1800 l/mm		6460Å				
Set	6.70		"				"				
"	6.70						"				

75
pg 1 Wed-Thurs

Date 1993 Nov 24/25 Observers [KK] Tn

Emulsion Batches:

CSS Time Fast 8 secs of WWV Time

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr	Seen
cc17862	BIAS(4)			17 23			Using OLD Dec Circle				
63/64	Comp/Stellar Hartman					00 30	+44°		30/35		
65	Comp for Barnard's Star			17 51 35				FeNe Clear	60sec		
66	BARNARD'S STAR	17 57 49 2000	+04 40 48	17 53 59		Tel East Side 04 24 40 W	+04 41		800	733	3
67	BD+04 3561 Comp →							FeNe Clear	60s		
68	BD+04 3561	17 57 49	+04 40 48	18 26 45		04 56 W			1727	600	4
69	Comp							FeNe Clear	60s		
→ 70 72	FLATS x 3					05 00 W	+04 41	TyNG Aj 1/2	10sec		
73	BIAS(4)										
74	Comp					Tel still East Side					
cc17875	AC+65 6955	20 29 00	+65 06 00	19 28 45		03 36 W	+65 22		2336	770	3
CG 30167 - 169	"										
17876	Comp							FeNe Clear	60s		
77	Comp							"	"		
78	AC+65 6955 ?2	20 29 00	+65 06 00	20 25 16		04 25 30 W	+65 27		1830	550	2
79	Comp										

Spectr. Temp. ...
Focus ... 7.00
Spectr. Temp. ...

Spectr. Temp. ..... Dome Temp./Hum. 00°C 53% H Transparency Conditions ..... Clearing nicely 3b

Focus ....7:00.....

Spectr. Temp. ..... Dome Temp./Hum. ..... 90CGAin CCDT → −100°C

Exp. Mtr.	Seeing	Pr. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD				1			
					1800 l/mm G=5000	300μ FULL L	5140Å	3/4		Fix ID 482-491 STellar L13 pinD Rat	
								5	KINDWARFS	ΔRA −00 00 23 } FOR ΔDec +00 00 57 } HR 6714	
733	3"	10	M5V		(≈ 2800 photons :: 18/1	S/N guess.	above thresh)	6c	KK pgm	ΔRA −00 00 22 FOR BARNARD'S ΔDec +00 00 45	
								7c		Field Drawn	
600	4"	10	M5V					8c	KK pgm	in TREES I think	
								9ci			
								10ci		MAX = 701 K ADU	
								1ci		Dome T = −6.5°C	
								11			
270	3"	104	M5V	(Yes, Spectrum CERTAINLY M type)				12	KK pgm	FRAMES TAKEN in Im Aqu view FOR Field PURPOSES	
										TURN down Int FOR 16 stones	
								13	Not FOR seeing tests	(change not in header though)	
								14		FOR AC+65 6955 ΔRA −00 00 33 ΔDec +00 02 30 FROM CARD 1900 CARD entry	
550	3"	10	(≈ K OR G)					15	Eikon Gord	Fields drawn	
								16			

37 pg #2

Date 1993 Nov 24/25. Observers [K.K.] Tq

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC17880	BIAS(4)							Step exp	4700s
81	comp								
CC17887	AC+65 6955	20 2400	+651606	210758		0527 W	~~+65 07~~ +65 24	FeNe Clear	250
83	Comp							"	60s
84	comp								
85	LHS 1176	00 5511	+6049 52	220704		0146 W			2443
86	Comp							FeNe Clear	60s
87	BIAS(4)								
88	Comp							FeNe Clear	60s
89	HD10780	01 4031	+63 2200	225704		0116W			444
90	Comp							FeNe Clear	60s
91	Comp							"	"
92	HD29587	04 3430	+415700	231310		0111 E			1049
93	Comp							FeNe Clear	60s
CG30170 30173	HD29587	"	"						4
30174 - 30175	"					0100E	+42		
CC17894 95	FLATS x 5					"	"	Tung Ap 1/2	10s
99	BIAS(4)								

Spectr. Temp.
Focus 7:0
Spectr. Temp.

Exp Mtr	Sec
250	3
160	3
4960	4
2770	5
x 67 ms @	
@ 133 m	

Spectr. Temp. ..... Dome Temp./Hum. -3.3°C 47.6% Transparency Conditions .. FINE - slight haze

Focus ... 7.00 .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Both FANS on at start of night. SE off by OBS START.

Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800 lines/mm G=5000	300μ Full	5140Å	1c;			
250	3"	10.4	M3					17 18.		* ~~T150 in the UK~~ = 3 K Photons Σ Avg obs	
								19c;	Mdwark	Repeat of CCI 7875 exp ~~T40 is 1st short~~	
160	3"-5"	10.8	M2.5	Eastone of Pair	Sep = 2'			20c.	Mdwark	Δ RA -00 00 37 Δ Dec +00 00 54	
								~~21c;~~			
								21c.			
4900	4"-6"	5.63	KOV					22c;	KK pgm	seeing going fast	
								23c;			
								24c;			
2720	5"	7.29	dG2					25c;	std vel	Tel still East side	
								26c;			
x 67ms @ G=10, Int @ 280									Seeing Test,	Tel Reversed Dome East Light NE wind	
2 x 133 ms ea								27c.			
							5140Å	2c;			

YA pg #3

Emulsion Batches:

Date 1.9.93 Nov. 24/25 Observers [S.F.] / T.H.

This page all 3950 Å, 1800 & 1200/m. gratings

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
	Comp/stellar	HURTMAN		00 00		0340E	+2816	FeNe Clear	30/
~~cc17900~~	~~HD62509~~	~~07 39 12~~	~~+281600~~	00 06	000956	03 36E		Accidental	40 30 sec
	Took a break, Rather then Try to			Reset: Hourpicon etc				For Hartmann	
cc17900 01	Comp/stellar	Focus Test				02 32E	+2816	FeNe Clear	30/45
02	Comp						no Filters in Beam	"	60s
03	HD62509	07 39 12	+281600	01 16 09		02 23E	" "	"	398
04	Comp							FeNe Clear	60s
05	BIAS(4)								
06 → 08	FLATS x 3						Clear	T4/16	100s
10 11 ~~12~~	Comp/stellar	HURTMAN (written during exp)				NO FILTER USED	"	FeNe Clear	30/45
09 ~~10~~	Comp					FILTER BG39 in FOR comp too	"	"	60s
12	HD62509	07 39 12	+281600	01 46 33		Filter BG39 TRANSFERRED TO STELLAR			479
13	Comp					WITH BG39		FeNe Clear	60s
14 → 18	FLATS x 5					"	Clear	T4/16	120s
19	BIAS(4)								

Spectr. Temp. ..... Dome Temp./Hum. -6.6°C 49% Transparency Conditions ....Fine..... 40

Focus 7.00

Spectr. Temp. ..... Dome Temp./Hum. -8.2°C 56% 1800 FMT 480 0 50 1024 4 1

1200 FMT 430 0 50 1024 4 1

90 CGAin

Exp. Mtr.	Seeing	Rig. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
HEATED,	Accidently			CASS CCD started a		4030	~3450Å sec	comp	Then let stan do it's thing.		
105K	[MAX 4K4Q4]			1800 l/mm		250u with pointers		3c:	Srt [Will	be a Composite + comp]	
Not Kept				But used for IO	strength, anyway		3950Å		Dome T = -7.3°C @ 01 EST		
	T = -7.5°C		Set -7.00		1800 l/m G 4068			27/30		Pixel 494-503 stellar ~2 pixel Rad ~ OK for Lag.	
					G=4220			29c:			
200K	5"	1.14	KOIIIb	Header SAYS 4210 But that's OK ITS 4220			3950Å	30c:	Srt Pgm	MAX = 4K4Q4 also Std Vel	
								31c:			
								1c:			
									1c:	210K max 3950Å stellar 621-630 Focus for 1200 l/mm 2pix Hue	
Set 7.00		T = -7.9°C		CASS CCD	1200 l/mm G=5090	250u (notched)	3950	27/28c:	Focus for 1200 l/mm		
	(poor 8")							32			
110K		1.14	KOIIIb					33	Srt Pgm	8.1 Å/mm	
								5c			
For 1+3,	180	For last 2.						7c:		120 sec exp MAX = 6800 ADU But only 2300 in Blue	
								1c:			

page 1 41 Thu/Fri

Date . Nov. 25/26. 1993 Observers ..[Rm]/Tn/Hlw

Emulsion Batches: .....

.....

CSS 54:11 8 secs ahead of WWV Time

Spectr. Temp. .....

Focus .....

Spectr. Temp. .....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination Dec circle	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Sec
cc17920	Bias (4)						To compare w encoders				
21/22	Comp/Stellar	Hartman						FeAr clear	30/40		
23	Comp.						+58 43	FeAr clear	60s		
24	HD237190	03 46 10	+58 21 18	23 23 25					1800s	1124	
25	Comp							"	60s		
26	HD237190	03 46 10	+58 21 18	23 57 33		+0:05 W			2056s	854	
27	Comp							FeAr clear	60		
28	Comp							"	60		
29	RX Cam HD25361	03 56 42	+58 12 59	00 42 35		01 11 W			1785	3:02	
30	Comp							FeAr clear	60s		
cg30176-9	4×HD29587					0:46 W	encoder +42 07	4×	67ms		
30180-81	2×HD29587						"	2×	133ms		
?!	Comp							FeAr clear	60s		
32	HD29587	04 34 30	+41 57 00	01 29 12		01 14 W	Dec circle +42 12		1367	3:30	
33	Comp							FeAr clear	60s		
34	13145(4)										

Spectr. Temp. ..... Dome Temp./Hum. -4.8°C +69.2% Transparency Conditions ..PARTIAL clearing 42

Focus ..... 6.93 increasing thickness of cloud.

Spectr. Temp. ..... Dome Temp./Hum. -4.5°C +80% H

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800 l/mm G=5910	300μ	6400Å				
								3/4	Focus Test	T = -5.0°C	
								5c.			
1124		8.64	GOIb					6c.	Rm	RW Cam	
								7			
854		8.64	GOIb					8	Rm	RW Cam again!	
								9			
								10			
3008								11	Film capped	thickening cloud A.R.mass 1.046	
								12			
	poor	~~7.29~~	dG2						Seeing test		
									"		
								12			
0400	4"	~~7.29~~ 42	dG2					13	Std Vel		
								14c.			
								1C.			

43 Pgs 2

Date Dec 25/26.1.1993. Observers CBm.J./T.m./H.w.....

Emulsion Batches:
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.....
.....

Spectr. Temp.
Focus 7.0
Spectr. Temp.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Se
CC17935	Comp							FeAr Clear	60s		
36	HD29260	04 31 26	+18 20 04	02:05:06 *	02 17 02				7½	4000	
37	Comp							FeAr Clear	60s		
38	Comp							"	"		
39	HD87901	10 03 03	+12 27 22	02:40:09					97s	34000	
40	Comp							FeAr Clear	60s		
41	Comp							"	"		
42	HD89449	10 14 3	+19 59	02 54 46		E	Dec circle +19 34		78	24500	
43	Comp							FeAr Clear	60s		
44	BIAS(4)										
45 -49	FLATS x5					02E	+19 34	TUNG Apl/2	5		

Spectr. Temp. ..... Dome Temp./Hum. -4.4°C 81.1% Transparency Conditions ... V thick cirrus 44
Focus ... 7.00 ... c Ring about moon
Spectr. Temp. ..... Dome Temp./Hum. -3.3°C 84%

Exp. Mtr.	Seeing	Pix Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass	1800 G=5910	300 μ	6400A	15		Exit H and K * Exp recovered after CS3 & CRASH.	
4000		6.33 -6.75	FS15 -F9.5b					16	Rm cepheid pgm	No problem though.	
								17ci			
								18ci			
34000		1.35	BTV					19ci	Tellunc		
								20ci			
								21ci			
24500	4"	4.79	F6IV					22ci	std vel	cloudy now	
								23ci			
								1ci			
								24ci		12 ft max ADU	
							All To Perseus WORK				

145

Date Nov. 28/93 Observers Ust(RG)/Htw

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr.
cc17950	Bias (4)		386	Clock FAST 11 seconds						
51/52	Comp/Stellar	Hartman							25/40	
17953.	~~HD 182835~~ comp	19 21 24	+00 08 21	18h 37m 43s		3h 26m	+17 42 (N)			
17954.	HD182835.								796s	15K
19955	comp							FeNe/clear	60s	
17956	~~HD~~ comp.							FeNe clear	60s	
17957	HD188512.	19 50 24	+06 09 00	19h 01m 13s		3h 28m 42s (W)	+6 23 9 N		496s	20K
17958	HD188512			19 09 59		3 37 42	+6 23 12		509s	23K
17959	~~HD188512~~ Comp							FeNe clear	60s	
17960	HD188512	19 50 24	06 09 00	19 25 57		3:57 W			800s	15K
17961	HD188512	19 50 24	06 09 00	19 39 33		4			647s	17K
17962	Comp							FeNe clear	60s	
17963	comp							FeNe clear	60s	
17964	HD 204867.	21 31 18	-06 01 00	19:59:52		2h 50m (W) 25s	-5 37 36		~~3905~~	35K
17966	HD 204867.	21 26 18	-06 01 00	20:06:59					461s	32K
17966	HD 204867	21 26 18	-06 01 00	20:15:00		2h 58m 31s (W)	-5 18 3		263	20K

Spectr. Temp.
Focus
Spectr. Temp.

4

Spectr. Temp. ..... Dome Temp./Hum. ...-02...°C /+64% Transparency Conditions .cloudy/Full Moon 46

Focus .....698.....

Spectr. Temp. ..... Dome Temp./Hum. ...~~+6445.7~~ -0.9/+66% Both Fans ON until 1st exposure, then ~~S~~ turned off.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~ clambda	P.H.	Program	Remarks	Quality
				Cass CCD	1800l/mm G=4310	~~300~~ slit	4100Å	1ci			
								3/4ci	Focus test.		
								~~6ci~~ 4	Vst (rg)	~~~120 S/N~~	Done with 300M slit.
15K.		4.64 ~~F2Ib~~	F2Ib					6ci			
								7ci			oops.
								8ci			
20K.		3.71	G8IV					9ci	Vst	120 S/N.	
23K		3.71	G8IV			250M		9ci	Vst		
								10ci			
25K		3.71	G8IV					11ci	Vst	130 S/N	
17K.		3.71	G8IV					11ci			
								12ci			
		~~2.89~~	~~G0Ib~~					13ci			
25K		2.89	G0Ib					14ci		135 S/N	
32K		2.89	G0Ib					14ci		130 S/N	
20K								14ci			

247

Date Nov 28/93 Observers Vst(s) / HIW

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
17967	Comp							Fe Ne clear	60s
17968	Bias(4)								
17969	Flats x5.					+3:09(W)	-5:37	Tungsten clear	20s
17974	Comp							Fe Ne	60s
17975	HD 209750	22 00 39	-00 48 00	20 34 01		2:48(W)	-022		3225
17976	HD 209750	22 00 39	-00 48 00	20:40:41		2:54(W)	-022		285s
17977	HD 209750	22 00 39	-00 48 00	20:45:40					307s
17978	Comp							Fe Ne clear	60s
17979	Comp							Fe Ne clear	60s
17980	HD 206 859	21 39 47	+16 53 00	21:08:16		3 53(W)	17 19(N)		900s
17981	HD 206 859	21 39 47	+16 53 00	21:23:41		4 09(W)	17 19(N)		900s
17982	HD 206 859	21 39 47	+16 53 00	21:38:59		4 24(W)	17 19(N)		900s
17983	Comp.							Fe Ne clear	60s
17984	Comp							Fe Ne clear	60s
17985	HD 17918	02 47 37	16 05 00	22:05:46		-6 43	14 26		1350s
17986	HD 17918	02 47 37	16 05 00	22:31:19		14 47	16 26		1350s
17987	Comp							Fe Ne clear	

Spectr. Temp.
Focus
Spectr. Temp.

Exp. Mir | Se

25K
35K
2K
4:20
23K
24K.
7500
1500

Spectr. Temp. 2 ..... Dome Temp./Hum. -0.9/+66% Transparency Conditions. Hazy, partial clouds.

Focus 6.98 Full Moon. 48

Spectr. Temp. ..... Dome Temp./Hum. -1.6/+71.6

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion / Lambda	P.H.	Program	Remarks	Quality
				Cass ccd.	1800 ℓ/mm c=43.1°	250 μm	4100 Å	15ci	Vst (r-v)		
								1ci			
								16ci			
								17ci			
25K.		2.93	G2Ib					18ci			
25K		2.93	G2Ib					18ci		S/N 120	
27K		2.93	G2Ib					18ci		~~S/N 120~~.	
								19ci			
								20ci			
26700		4.35	G5Ib					21ci		S/N 120.	
23K.		4.35	G5Ib					21ci			
23K.		4.35	G5Ib					21ci			
								22ci			
								23ci			
7500		6.29	~~F5V~~ F5Ib					24ci		S/N 150.	
7500		6.29	F5Ib					25ci			
								26ci			

3 49

Date Nov. 28/93 Observers Ust(rG)/Hlw

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
17988	Bias (x4)									
17989	Flats (x5)							Tungsten clear	40s	
17990	Comp							Fe Ne clear	60s	
17995	HD 17584	02 44 16	37 54 00	23:13:24					450s	30K
17996	HD 17584	02 44 16	37 54 00	23:21:08					450s	31K
17997	HD 17584	02 44 16	37 54 00	23:29:14					450s	31K
17998	comp							Fe Ne clear	60s	
17999	comp							Fe Ne clear	60s	
18000	HD 20902	03 17 11	+49 30 00	23:50:26					70s	30K
18001	HD 20902	03 17 11	+49 30 00	23:53:12					73s	30K
18002	HD 20902	03 17 11	+49 30 00	23:54:43		0 H7 (W)	50		68s	30K
18003	Comp			23:58:00				Fe Ne clear	60s	
18004	comp Bias (4)							"	60s	
18005	HD 3421	00 32 00	+34 51 00	00:22:29		H 19	35 20		1200s	31K
18006	HD 3421	00 32 00	+34 51 00	00:42:55		4 43			1300s	44K
18007	HD 3421	00 32 00	+34 51 00	01:05:07					1350s	44K

3

Spectr. Temp. ..... Dome Temp./Hum. -1.6/+71.6 Transparency Conditions ... clear 50

Focus 6.98

Spectr. Temp. ..... Dome Temp./Hum. -2.5/+79.5

Full moon in eclipse @ 1^m am

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion cTambda	P.H.	Program	Remarks	Quality
				cass ccd	1800 l/mm G=4310	250 μm	4100Å	1ci	Vst(rc)		
				↓	↓			27ci	↓		
								28ci			
20K		4.22	F2III					29ci			
21K		4.22	F2III					29ci			
19K		4.22	F2III					29ci			
								30i			
								5ci			
30K		1.8	F5Ib					6ci			
30K		1.8	F5Ib					6ci			
30K.		1.8	F5Ib					6ci.			
								7ci/7ci			
								1ci			
15K		5.5	G2.5 IIa					9ci			
14K.		5.5	G2.5 IIa					9ci		Moon into umbra during exposure	
14600		5.5	G2.5 IIa					8ci			

4.51

Date Nov. 28/93 Observers Vst(rG)/Hlw

Emulsion Batches:

Spectr. Temp.

Focus

Spectr. Temp.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
18009	comp							FeNe clear	60s	
18010	Bias(4)									
18011-15	Flats(x5)							Tungsten clear	40s	
cy30182-5	4× HD40722	05 55 40	43 22 39	01 45		+0:03W	+43:23		.06	
86,87	2× "	"	"						.133	
18016	comp							FeNe clear	60s	
18017	HD8890	01 22 36	+88 46 00	02:05.40					128s	HK
18018	HD8890	01 22 36	+88 46 00	02:08:07					126s	
18019	HD8890	01 22 36	+88 46 00	02:10:27		4:08(W)	89 14(N)		129s	
18020	comp							FeNe clear	60s	
18021	Bias(4)									
22/23	Comp/Stellar	Hartman						FeNe Clear	25/40	

4.

Spectr. Temp. ..... Dome Temp./Hum. -2.5/+79.5 Transparency Conditions .clear...5. Full. Mean.n...52

Focus .....6.98..... eclipse.

Spectr. Temp. ..... Dome Temp./Hum. -2.3/+79.5

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion Tambda	P.H.	Program	Remarks	Quality
				Cass ccd	1800 ll/mm G=43'10	25μm	4100Å.	9ci	V3t(1G)		
								1ci			
								10ci			
									Seeing Test.	North Fans On no wind lunar eclipse	
									"		
								10ci			
40K		Mb. 2.0	F7Ib-II.					11ci			
		2.0	F7Ib II					11ci			
		2.0	F7Ib.					11ci			
								12ci			
								1ci			
								3/4	Focus Test	Done at zenith during top-up.	

All to W.O.R.M. & Perseus

Note Jan 94: Reduction of focus test reveals .009 pix shift ∴ Prob test improper

Note

Next night Tn came in and noticed that Hartman mask left in comp room! ???

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Date Nov. 29/30 1993 Observers Hlw {Vys} / Tn

Emulsion Batches:
.....
.....
.....

Spectr. Temp. .....
Focus .....
Spectr. Temp. .....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Se
18024	Bias (4)										
25/26	Comp/Stellar	Hartman		21:06		Zenith.		FeNe Clear	30/40		
27	Comp							"	60s		
28	BD+40 45	00 11 52	40 23 33	21:23:40					1800s	1115	
29	Comp							FeNe Clear	60s		
30	BD+40 45	"	"	21 56 49					705		
31	Comp							FeNe Clear	60s		
32	BD+40 45	"	"	22:12:15					60s	50	
33	Comp							FeNe Clear	60s		
34	Bias (4)										
35-39	5x flat							Tung + Ap	10s		
40	Bias (4)										
41	Comp							FeNe Clear	60s		
42	HD1326	00 12 58	43 27 44	23 29 04		03 45W			929	1053	
43	Comp							FeNe Clear	60s		

Spectr. Temp. ..... Dome Temp./Hum. -0.3°C/70.7% Transparency Conditions Clear, some haze

Focus 6.98 cloud increasing 54

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Pfg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800 ℓ/mm G=5000	300μ	5140Å	1			
								3/4	Focus Test		
								5			
1115		9.0	MO		~80	Signal	to Noise Ratio	6	Vys Std	386 clock started off	
								7		11 seconds fast, but it	
~~111~~ 7	2"-3"	"	"		~47	SNR		8	Vys std.	was set before writing cc18027.fts	
								~~10~~ 9		Some cloud	
50		"	"		~10	SNR		10	Vys Std		
								~~12~~ 11			
								1		Clouded in for	
								13		an hour.	
								1			
								14			
1053		8.0?	MIVe					15	Vys Std.	more cloud by 23~~14~~	
								16			
				All to	Perm and			Worseus			

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Date Nov 30/Dec 1 1993 Observers Vst/HIW

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
18044	Bias (x4)								
18045/46	Comp/Hartman Stellar								30s/30s
18047	Comp.							Fe Ar clear	60s
18048	HD 182835	19h21m24s	+00 08 21	18:44:23					
18049	Comp							Fe Ar clear	60s
18050	Comp							Fe Ar clear	60s
18051	HD 204867	21:26:18	-06:01:00	~~19:05:13~~ 19:09:13					60s
18052	HD 204867	21:26:18	-06:01:00	~~19:10:33~~					61s
18053	HD 204867	21:26:18	-06:01:00	19:14:38					60s
18054	HD 204867	21:26:18	-06:01:00	19:17:23					60s
55	Comp			19:18:40				63	~~60s~~
56	Comp							Fe Ar clear	60s
18057	Bias (x4)							Fe Ar clear	60s
18058/62	Flats (x5)							Tung clear	4s

Spectr. Temp.
Focus
Spectr. Temp.

Exp Mtr	Se
15K	
9K	
9500	
9K	
9K	
10K	

Spectr. Temp. ..... Dome Temp./Hum. -1.1 / 63.2% Transparency Conditions ... Clouds ... on ... horizon

Focus 6.90 Both Fans on until 18:44

Spectr. Temp. ..... Dome Temp./Hum. ..... - when South fan off. 480 050 1024 41

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion Clamshell	P.H.	Program	Remarks ccdfmt	Quality
				Cass CCD	1800 l/mm G=6055	300μm	6563Å	1ci	~~(Ust Gv)~~	90 cgain.	
								3/4ci	Focus Test	90 "	
								5ci	Ust(Gv)	90"	
15K.		4.64	F2Ib					6ci		- possible saturation? S/N ~ 460.	
								5ci		Had to use lamp 1 & A during comp.	
								5ci		90 cgain	
~~20K~~ 9K		3.71	GOIb					7ci		- saturated ?	
~~9500~~		~~3.71~~	~~GOIb~~					~~8ci~~		~~= saturated ?~~	
9K		3.71	GOIb	←	cgain changed! to 30			8ci		30 cgain 8.25 sec exp. S/N ~ 400	
9K		3.71	GOIb					7ci		↓	
10K		3.71	GOIb					7ci			
					cgain = 90			5ci		cgain @ 90 for comps.	
								5ci		@ 30 for stellar -	
								1ci		30 cgain	
								8ci		30 cgain.	

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Date Nov. 30/Dec. 1 1993 Observers Vst(rw)/Hlw

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Spectr. Temp. / Focus / Spectr. Temp. Exp. Mtr.
18063	HD 209750	22:00:39	-00:48:00	19:37:59					60s	9K.
18064	HD 209750	22:00:39	-00:48:00	19:39:26					60s	9-00
18065	HD 209750	22:00:39	-00:48:00	19:41:00					60s	9K0
18066	comp							Fe Ar clear	60s	
18067	comp							Fe Ar clear	60s	
18068	HD 206859	21:39:47	+16:53:00	19:57:26					200s	9700
18069	HD 206859	21:39:47	+16:53:00	20:00:55					199s	9500
18070	HD 206859	21:39:47	+16:53:00	20:04:26					196s	9700
18071	comp							Fe Ar clear	60s	
18072	Bias (x4)									
18073/77	Flats (x5)							Tung ½ ap.		
18078	comp							Fe Ar clear	60s	
18079	HD 179418	2:47:37	+16:05:00	21:32:57					30s	2K
18080	HD 179418	2:47:37	+16:05:00	21:39:33					28s	2K0
18081	HD 179418	2:47:37	+16:05:00	21:44:59					27.5s	2K0
18082	comp							Fe Ar clear	60s	

Spectr. Temp. ..... Dome Temp./Hum. -1.7/+68.4 Transparency Conditions .. clear 5.8

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. -2.5/+69.2 Humidity outside ~ 88%.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion / Lambda	P.H.	Program	Remarks	Quality
9K.		2.93	G2Ib	cass CCD	1801 g/mm G=6055	300μm	6563 Å	9ci	Vst(r,c)		
9400		2.93	G2Ib	"	"	"		9ci		r gain @ 30.	
9800		2.93	G2Ib					9ci			
								5ci		r gain @ 90	
								5ci		"	
9700		4.35	G5Ib					10ci		r gain @ 30.	
9500		4.35	G5Ib					10ci			
9700		4.35	G5Ib					10ci	→	r gain @ 90	
								5ci	→		
								1ci		90 r gain	
								5ci		90 r gain (1½ ap)	
								5ci			
2K		6.29	F5III					11ci		90 r gain (S/N 170)	
2700		6.29	F5III					11ci		(S/N 180)	
2500		6.29	F5III					11ci			
								5i		90 r gain.	

3 50

Date Nov 30/Dec 1/93 Observers VSt(rG)/HIW

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
18083	comp							FeAr clear	60s
18084	HD584/17584	02:44:16	+37:54:00	22:06:53					132s
18085	HD17587	02:44:16	+37:54:00	22:08:29					132s
18086	HD17587	02:44:16	+37:54:00	22:10:53					139s
18087	comp						Lost in FeNe oops	FeAr clear	60s
18088	comp							"	60s
18089	HD 20902	3:17:11	49:30:00	22:28:15					28s
18090	HD 20902	3:17:11	49:30:00	22:29:19					23s
18091	HD 20902	3:17:11	49:30:00	22:29:58					23s
18092	comp							FeAr clear	60s
18093	Bias (x4)								
18094	Bias (4)								
95-99	5 x Flats							Tung Yz Ap	4s
~~18100~~	~~Bias (4)~~								

Spectr. Temp. ..... Dome Temp./Hum. -2.7/+69.4 Transparency Conditions ... clear / cloud (2) ...

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. -3.4/+71.6 Humid. outside: 90% (22h) 93% (03h16m) (6)

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion / Lambda	P.H.	Program	Remarks	Quality
				Cass CCD	1800 g/mm G=6055	300 μm	6563 Å	5ci	Vst (r v)		
9500		4.22	F2 III					12ci		30 c gain	
9500		4.22	F2 III					12ci			
9500		4.22	F2 III					12ci			
								5ci		30 c gain	
								5ci		30 c gain	
15K.		1.8	F5 Ib					13ci		30 c gain	
15K		1.8	F5 Ib					13ci		30 c gain	
15K		1.8	F5 Ib					13ci		30 c gain	
								5ci		90 c gain	
								1ci		30 c gain	
								1ci		30 c gain	
								8ci		90 c gain	

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Date Dec 1/2 1993 Observers [KK]/Tn/HIW

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc18100/01	comp/stellar	Hartman						FeNe Clear	20/30
102	Bias (4)								
103	Comp			[redacted]				FeNe Clear	20s
104	HD172167	18 33 33	+38 41 00	18:07:31		+3:56 W	+38:46		17s
105	Comp							FeNe Clear	20s
106	Comp							"	20s
107	HD209790	22 00 54	+64 08 00	18 16 52		00 43 W			167
108	Comp							FeNe Clear	20s
109	Comp							"	20s
110	HD217782	22 58 20	+42 13	18 31 05		00 00 E			300s
111	Comp							FeNe Clear	20s
112	Bias (4)								
113	Comp	for Polaris B						FeNe Clear	20s
114	HD88940B	01 22 36	+88 46	19 00 45		02 41 E			1800
115	Comp							FeNe Clear	80s

Spectr. Temp.
Focus.....
Spectr. Temp.

Exp. Mtr.	S
~7.15	
~20000	
200	
120	
2173	

Spectr. Temp. ..... Dome Temp./Hum. T1.0°C 70% H Transparency Conditions ... Clear ... C2
Focus ... 7.15 ... some thin cloud
Spectr. Temp. ... B ... Dome Temp./Hum. ... 480 0 50 1024 4 1 ccdfmt

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
set 7.15	T=	+1.0°C		Cass CCD	600 ℓ/mm G=2620	250 μ	4200 Å	3/4	Focus Test	@ Row 580 stellar 2 pixel Red	
								1		CGAIN 90 of Reg All	
								5			
~20,000		0.0	AOV$_q$					6	FOR Std Vel Purposes.	star moved back & forth on slit while exposing to "spread out the light"	
								7			
								8			
8,200	3"	B 4.63	A3m					9$_{Ci}$	KK pgm	Comp to Left of RWC3 also on slit	
								10$_{Ci}$			
								9$_{Ci}$			
7200	2"	5.17	A2					10$_{Ci}$	KK pgm	MAX 13K ADU	
								11$_{Ci}$			
								12$_{Ci}$			
2173	2"	8.6	F		~140 SNR			8$_{Ci}$	KK pgm	CG images 3" to turn to show POM extract while guiding (see next page)	
								1A$_{Ci}$			
								1$_{Ci}$			

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Date 1993 Dec 1/2 93 Observers [K.K.]/H.L.T.q....

Emulsion Batches:
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.....
.....

Spectr. Temp.
Focus.....
Spectr. Temp.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr	Se
CG30188 – 190	HD8890B, A to Right or East side. During previous spectr exp					CC18114.fts			.067ms		
CC18116	HD8890B	01 22 36	+88 46	19 34 20					20½	A00	
117	Comp							FeNe Clear	20s		
118	Bias (4)										
119	Comp							"	20		
120	HD217675	22 57 18	42 14 00	20 22 03					40s	-5x	
121	Comp							"	20		
122	Comp							"	20		
123	HD6961	01 05 01	+54 37 00	20:35:24					120	300	
124	Comp							FeNe Clear	20s		
125	HD6961			20:41:31					65s	4200	
126	Comp							FeNe Clear	20s		
127-131	FLATS x 5					00 05W	+55 08	TUNG Clear	TUNG	B	
132	Bias (4)										
CG30191 – 195	HD10006	01 32.6	+45 50					4x 67 msec			
196/197	"	"	"					2x 133 msec			

Spectr. Temp. ..... Dome Temp./Hum. -0.5°C/77.1% Transparency Conditions ... Clear ... C4 ...
Focus ... 7:15 ... increasing cloud,
Spectr. Temp. ... B ... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	2"	8.6	F	CASS CCD	600 l/mm 250 G=2620 pointers		4200 Å		Not for seeing (varied Intensifier) tests purposes		
A00		8.6	F					15		94% Humidity on Catwalk @ 2006	
								16			
								17			
~5K		B= 3.6	B6p		>200	SNR		18	KK		
		[illegible]						19			
								20			
6800	2"	450	AZV		~280	SNR		21	KK prog		
								22			
4200								21		96% on catwalk @ 2040	
								23			
13 secs										1114x 16K ADU	
	~~2"~~				Light East Breeze				Seeing tests	Dome west	
	2"								n	No FAINT tonight.	

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Date Dec 1/2 1993 Observers [KK] / Tn / HIW / [BIn]

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC18133	Comp							FeNe Clear	20s
134	HD222368	23 34 48	05 05 00	21 44 11					222s
135	Comp			21 53				FeNe Clear	
136	BIAS(4)								
137 139	FLATS x3					02 46W	+5 34	Tung Clear	13s
140 141	Comp/Stellar	focus HARTMAN poms		01 11		00 37W	+29 33	FeNe Clear	20/35
142	Bias (4)								
143	Comp							FeNe Clear	30s
144	HD37479	05 33 45	-2 38 48	01 2407		00 29W			900s
145	Comp							"	30s
146	HD37479	05 3345	-2 3848	01 4140	02 00 00	00 49W			1097s
147	Comp							FeNe Clear	30s
148-150	3×Flat							Tung Clear	200s
151	Bias (4)								
CC18152 153	Comp/Stellar	HARTMAN FOR	6400Å Region			00 26W	+38°	FeNe Clear	30/35

Spectr. Temp.
Focus
Spectr. Temp.

Exp Mtr. | Se

10000

Set 7

1300 2

6850 2

Set 6

Spectr. Temp. ..... Dome Temp./Hum. -0.5°C / 80.3% Transparency Conditions ... Thick Haze ... 66

Focus ... 7.15 ...

Spectr. Temp. ..... Dome Temp./Hum. .....

96% Humidity outside
Raoponal @ 01 due to Humidity
actually dropping & clearing

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	600 l/mm G=2620	250μ	4200 Å	25			
10,000		V= 4.13	F7 IV					26	Std Vel.		
								27			
								1c;			
								28			
set	7.05	T= +0.6°C			1800 l/mm G=4065		3730 Å			λ & Grating change	
								1c;			
								5			
6300	2"-3"	B 6.32	B5 V pe (HeS)					6	He Str pgm	→ 4 K plots Σ Avg (Blu) σ Orig E	S/N ≈ 70/1
								7			
6800	2"-4"	"	"					8	He Str pgm		70/1
								9			
								10		7300 ADU max	
[Set	6.90	T= +1.0°C]						1			
					13000 → 5910	300μ	6430 Å	3/4			

4.67

Date Dec. 1/2, 1993 Observers [Rm]/Tn/HLW

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr.	Seeing
154	Bias (4)										
155	Comp					00 05 W		Fe Ar Clear	60s		
156	NGC2539 #60	08 05 41	-12 26 45	03:17:39		00 05 ~~0~~W	-12:42		1802	338	2"
157	Comp							Fe Ar Clear	60s	Mostly Sky Cirrus	
158	NGC 2539 #60	"	"	03 51 05		00 39 W			1837	446	
159	Comp							Fe Ar Clear	60s		
160	~~NGC 2539 #60~~	~~"~~	~~"~~	~~04 25 10~~	Too	Cloudy					
160	Comp							Fe Ne Clear	60		
161	HD87901	10 03 03	+12 27 22	04 39 30					52s	22000	
162	Comp							"	60		
163	Bias (4)										
164	Comp							"	60		
165	HD44990	06 19 48	+07 08 00	04 54 37		+3:16 W			1092	28:0	
166	Comp							"	60		
167	Comp										

Spectr. Temp. ..... Dome Temp./Hum. +1.3°C / 77.2% Transparency Conditions Clear 68.

Focus 6.90 To incr hazy

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800 ℓ/mm G=5910	300 μ	6400Å				
											S/N
338	2"	V= 10.96						6c:	Rm / Hiw pgm	2K photons Σ Hug above background.	40/1
mostly sky cnts								7c:		3/4 moon ≈ 30° NW of star	
406								8c:		1.82 Airmass incr haze	
								9c:			
								10c:			
								11			
22000		1.35	B7V					12	Telluric.		
								13			
								1			
								13			
2800		6.5 -8.0	F7 Iab K1 Iab					14	T Mon, Rm		
								15			
								16			

5.69

Date Dec 1/2 1993 Observers [Rm]/Tn/Hlw

Emulsion Batches:

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Spectr. Temp.

Focus.....

Spectr. Temp.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Sec
cc18168	HD89449	10 14 18	19 59 00	05 21 06					447	5200	
169	Comp							FeNe clear	60s		
170-174	5× flats							Tung ½ ap	5s		
175	Bias (4)										

Spectr. Temp. ..... Dome Temp./Hum. +0.5°C/19.0% Transparency Conditions Thick Haze 70

Focus 6.90

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
5200		4.79	FG IV	Coss CCD	1800 g/mm G=5910	300μ	6400 Å	17	Std. Vel.		
								18			
								2c			
								1			
			All to WARM & Perseus								

71 sun/moon

Date 1993 Dec 5/6 Observers K.K./T.T.

Emulsion Batches:

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Spectr. Temp.

Focus ±24

Spectr. Temp.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr	Se
CQ06x15 06816	INBOARD/OUTBOARD Hartmann			2028		0240W	+10°	THAr	20/12	.245, T=	
6817	FLAT							TUNG	80s		

Spectr. Temp. ..... Dome Temp./Hum. 2.8°C 72% Transparency Conditions Cloudy mainly 72

Focus .245.....

Spectr. Temp. ..... Dome Temp./Hum. ..... → -100°C 90C GAIN

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	X Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
.245, T=+2.8°C				echelle CCD	1200 -.4370	60u width 600u Height	3990Å		60u=.277 600=.205	5th/6.; Echelle Tilt probably 18° In Feb 94	
				"	"	800u Height		2C;	800=.185	HARTMAN 4500Å/ MASK out now 94	

1-73

Date Dec 8/9, 1993 Observers HIW/{Vys}/[KK]

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Sec
cc18176	Bias (4)										
77/78	Comp/Stellar	Hartman				Zenith		FeAr Clear	30/40		
79	Comp							"	60s		
80	HD1326	00 12 58	+43 27 44	17 32 28		~ -1.5E			400s	930	
81	Comp							"	60s		
82	HD1326 *	00 12 58	+43 27 44	17 42 14					340	690	
83	Comp							"	60s		
84	HD1326	00 12 58	+43 27 44	17 55:25					100	145	
85	Comp							"	60s		
86	Bias (4)										
87-91	5 × Flat							Tung ½ Ap	5 sec		
92	Bias (4)										
93	Comp							FeAr Clear	60s		
94	HD1326	00 12 58	+43 27 44	22 59 03		~+3.5W			603s	382	
95	Comp										
96	Comp										

Spectr. Temp. ..... Dome Temp./Hum. +1.8°C / 74.7% Transparency Conditions Clear, clouds on horizon.

Focus 6.90

Spectr. Temp. ..... Dome Temp./Hum. ..... 480 0 50 1024 4 1 ccdfmt

Exp. Mtr.	Seeing	~~Ptg.~~ √Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~ Lambda	P.H.	Program	Remarks	Quality
				Cass CCD	1800 ℓ/mm G=5910	300 μ	6400A	1		87% on catwalk @ 1730	
								3/4		T=1.9°C, f=6.90 set for a bit colder ~.3 pixel.	
								5			
930		8.07	MIV					6	Vys Std.	SNR ~114	
								7			
690		8.07	MIV					6	Vys Std	SNR ~100	
								8			
145		8.07	MIV					9	Vys Std	some clouds SNR ~35	
								10		→ sudden complete cloud cover @ 1800.	
								1			
								11		max ADU ~ 14000	
								1		clouds parted at 2230	
								12			
1382		8.07	MIV					13	Vys Std	SNR ~140	
								14			
								15			

275

Date Dec 8/9 1993 Observers HIW/ΣVys3/[KK]

Emulsion Batches:
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Spectr. Temp.
Focus.....
Spectr. Temp.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Se
cc18197	HD 42545	06 06 17	+16 09 11	23 28 39		-1:40 E			161s	1080	
98	Comp *							Fe Ar Clear	60s		

Spectr. Temp. ..... Dome Temp./Hum. +1.8°C / 79.7% Transparency Conditions ..... Clear 76

Focus ..... 6.90 ..... ?? → I think it is closer to 0°C

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	~~Ptg.~~ Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2080		4.95	B5V	Cass CCD	1800ℓ G=5910	300μ	6400Å	16	Telluric.	Clouded in @2330	
								17		suddenly, again!	
			All to WORM & perseus.							for good this time	

pg #1 77
Thurs Fri

Date 1993 Dec 9/10 Observers (Rm) Tn / Hlm

Emulsion Batches:
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.....

Spectr. Temp.
Focus ... 6:
Spectr. Temp.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Se
CC18199	BIAS (4)										
200											
201	Comp / stellar	HARTMAN	posns.					Fe Ar Clear	30/42		
202	Comp							"	60sec		
203	HD 198726	20 47 13	+27 52 30	17 47 29		01 59 W			300s	4500	
204	Comp							Fe Ar Clear	60sec		
205	Comp							"	"		
206	HD 203156	21 15 23	+37 49	18 00 36		01 29 W			30s	4800	
207	Comp							Fe Ar Clear	60sec		
208	Comp							"	"		
209	HD 214975	22 36 55	+56 18 24	18 15 10					1935	1850	
210	Comp							Fe Ar Clear	60s		
211	HD 214975	22 36 55	+56 18 24	18 50 08		01 37 W			1861	1627	
212	Comp							Fe Ar Clear	60s		
213	BIAS (4)										
214	FLATS x 3	00 35 3	+39 40					TUNG Ap 1/2	5sec		
216											

Seeing Test attempted

Spectr. Temp. ..... Dome Temp./Hum. +4.2°C 66% Transparency Conditions PART CLOUR 7.8

Focus ....6.90.....

Spectr. Temp. ..... Dome Temp./Hum. +3.5°C 68.5% 90 C GAin, CCDT → −100 C

Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				c455 CCD	1800 l/mm G-5910	30µ ~~dot~~	6400Å	1c;			
								3c/4c;	Focus Test	20-25 pcols G14-623 x/y/d = 0.2 pixel Red	
								5c;			
4500	3"	5.75	GOIb					6c;	Rmpgm		
								~~7c;~~			
								7c;			
4800	2"-3"	5.8 -5.9	F2					8c;	Rmpgm	60K photons ΣAUG of pixels above background.	
								~~9c;~~			
								~~9c;~~	~~Rmpgm~~		
1850	2-3"	8.40	GOIb					10c;	Rmpgm	40K photons, ΣAUG of pixels above background.	
								11c;			
1627		8.40	GOIb					12c;	Rmpgm	1.017 NIR MASS	
								1c;			
								2c;		MAX 14K AUG	
		No Seeing Test, due to Perseus Problem									

pg#2 79

Date 1993 Dec. 9/10 Observers [R.ws] Hart. [Tu] / [BIn]

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Se
cc18217	Comp							Fe4r Clear	60s		
218	HD3765	00 35 18	+39 40	19 39 04		0.23 W			1532	3120	
219	Comp							Fe4r Clear	60s		
220	Comp							"	60s		
221	HD219688	23 12 42	-09 43 42	20 19 01		2:15 W			855	5000	
222	Comp							"	60s		
223	Bias (4)										
24-26	3x Flats	"	"	"							
27/28	Comp/Stellar	Hartman						FeNe Clear	20/35s		
29	Bias (4)										
30	Comp							FeNe Clear	30		
31	HD37479	05 33 45	-02 38 48	21 12 27					1600s	4057	
32	Comp							FeNe Clear	30		
33	HD37479	05 33 45	-02 38 48	21 46 37					847s	373	
34	Comp							FeNe Clear	30		
35-37	3x flats		→ cc18238: Bias (4)		in	1 ci		Tung Clear	200s		

Spectr. Temp.
Focus 6
Spectr. Temp.

Spectr. Temp. ..... Dome Temp./Hum. +3.5°C 68.5% Transparency Conditions .. Part Cloudy 80

Focus ..... 6.90 .....

Spectr. Temp. ..... Dome Temp./Hum. +4.0°C 67.0% .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800 G 5410	300μ	6400Å	12:			
3120	2"							13c	Std/el	SNR ~ 230	
		7.36	dK5					14c:		- This comp has a nasty cosmic ray @ (24, 897)	
								15:			
5000		4.39	B5V		200 SNR			16	Telluric		
								17			
								1			
								18			
				Cass CCD	1800 l/mm G=4065	250μ	3730Å	19/20	Focus Test	Focus = 7.02	
								#1			
								21			
2057		V= 6.53	B2Ia					22	He Str, Bln	~30 Signal to Noise Ratio.	
								23			
373								22	He Str, Bln	Clouded in.	
								24			
								25		All TO work on only due To Persius Problem,	

1 6/ 11/12

Date 1993 Dec Observers [BIn]/Tn/HIW

Emulsion Batches: .....

.....

CSS 386 Time 14 sec ahead of WWV Time.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc18239	BIAS(4)								20/
40/41	Comp/stellar	HuAtmAtm							20/
cg30200-3	42 HD218525	23 03 35	44 01 14	17:30					67 ms
cg30204,5	27 "	"	"	17:34					133 ms
cc18240	Comp							FeNe Clear	30s
43	HD222368	23 34 48	+05 05	17 57 30		00 22E			902
44	Comp							FeNe Clear	30s
45 →47	FLATS x3			~~18~~16		~0010E	+5 35	TUNG Clear	20s
48	BIAS(4)								
49 →51	Flats x3					-5:30E	-2°	Tung Clear	20s
52	Comp							FeNe Clear	30s
53	HD37479	05 33 45	-02 38 48	19 26 18		4:37E			1800s
54	Comp							FeNe Clear	30s
55	HD37479	05 33 45	-02 38 48	20 01 25		4:02 E			1745
56	Comp							FeNe Clear	30s
57	Bias(4)								

Spectr. Temp. ..... Dome Temp./Hum. -7.6°C / 50.6 % Transparency Conditions ... Clear ... Clouds on 02 West horizon.

Focus ... 7.15 .....

Spectr. Temp. ..... Dome Temp./Hum. ..... CCD T -> -100° 90 CCD Gain

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~ lambda	P.H.	Program	Remarks	Quality
				Cass CCD	1800 g/mm G=4065	250 μ	3730 Å	1ci			
								3ci/4ci	Focus Test	spot 562-571 @ foc = 7.15	
Intensity ~260 on	poor	6.34	A0			ABOVE 250μ slit no decker			Seeing test	Dome open early 16:30	
"	"	"	"						"		
						250μ (pointer declarin)		5ci		Dome T = -8.4° max	S/N
25000	8"	4.13	F7					6ci	std vel	15K photons Σ avg	> 100/1
								7ci			
								8ci		MAX = 8K 1200 Blue end 4700	
								1ci		Dome T =	
								9ci			
								10ci			
1438	>10"	6.53	B2 I		Signal to Noise Ratio ≈ 10 !!			11ci	Bln He Str	some cloud here too Star is just a huge blob :	
								12ci			
2666		6.53	B2 I					13ci	Bln He Str	Son of Blob	
								14ci			
								1			

2 of 3

Date 1993 Dec 11/12 Observers [Bln]/Tn/Hlw

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr	Seei
CC18255	HD37479			20 35 47		3.30E	-2		1448	3.70	
59	Comp										
60/61	Comp/Stellar	Hartman						FeAr Clear	30/45		Set 7
62	Comp							4	60s		
63	HD1061	00 09 50	+8 16	21 37 20		2:50 W			1200s	7.50	
64	Comp							"	60		
65	Bias (4)										
66	Comp							FeAr Clear	60s		
67	HD21364	03 21 48	09 23 00	22:09:16		0000W			727	4.00.0	
68	Comp		*	2258				"	60s		
69 71	FLATS X5 3					00 50 W	+9 42	Tung Clear	30/35		
72	Comp							FeAr Clear	60s		
73	ADS 4241 D	05 33 42	-02 39 12	23 38 50					1844s	8.40	
74	Comp			00 10 06				FeAr Clear	60s		
75	HD37468	05 33 42	-02 39 28	00 20 16					400s	2.00	
76	BIHS (4)										

Spectr. Temp.
Focus 7.15
Spectr. Temp.

Spectr. Temp. ..... Dome Temp./Hum. -9.8°C / 55.9% Transparency Conditions Clear 84

Focus 7.15 / 7.10

Spectr. Temp. ..... Dome Temp./Hum. -11.0°C / 62.1%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~ Clambda	P.H.	Program	Remarks	Quality
3200				Cass CCD	1800 l/mm G=4065	250μ	3730 Å	15	Bln He Str.		
								16			
set	7.10	focus		Cass CCD	1800 l/mm G=4565	250μ	4476 Å	17/18	Focus Test	T = -9.8 , focus = 7.10	
								19ci			
7150		B = 6.15	A9s					20ci	Bln - SB		
								21ci			
								1			
								22ci			
49,000		R = 3.66	B8p					23ci	Bln		
								24ci		* Late comp due to need to hand TURN OPTICAL Rack into place.	
								25ci		→ 12.6 K ADU MAX	
								26ci			
8660		V = 6.5	B2V					27ci	Bln pgm	Guide left of slit center To block out BRIGHTER OBJ AB	
								28			
29000		V = 3.81	O9.5V					29	Bln pgm	110 A x 9.5 K ADU	

3 65

Date 1993 Dec 11/12 Observers [B/n] H.W. / Tu

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC18277	Comp for HD37468								
278	FLATS x2					00 16W	-02 37	TUNG Clear	35s
279	~~Comp~~								
280	Comp / Stellar HUBTMAN					00 25W		FeNe Clear	20/33
281									
282 ✓	Comp							"	30s
283	HD 37479	05 33 45	-02 38 48	01 18 43					1939
284	HD37479	05 33 45	-02 38 48	01 51 59					1800
285 ✓	Comp							FeNe Clear	30s
286	HD37479	05 33 45	-02 38 48	02:28:22		2:27 W			1803
287	HD37479	05 33 45	-02 38 48	02:59:04					1895
288 ✓	Comp							FeNe Clear	30
289	Bias (4)								
290	HD37479	05 33 45	-02 38 48	03:39:27					
291	Comp							FeNe Clear	30s
292 293	FLAT x2							TUNG Clear	200s

Spectr. Temp.
Focus 7.10
Spectr. Temp.

Exp Mtr. Sec

3350
x200 4
8.75
6350

Spectr. Temp. ...../..... Dome Temp./Hum. -11.0°C 62.5% Transparency Conditions ....Fine - somedad....

Focus ..7.10...../...7.18.. 86

Spectr. Temp. ..... Dome Temp./Hum. -11.3°C 68.9% light snow at end

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
				G	1800 l/mm 4565	250μ decker	4476Å	28c;		Rack final counted of course 14K ADU max	
					〃	〃	〃	2c;			
								~~30c;~~			
	T=-11.0°C	Set 7.18			G 4065	250μ decker	3730Å	3/4c	Focus Test	T	
								~~30c;~~		Done Really manually	
8050		V= 6.53	B2Ipg					30c;	He Str Blr	now using sp control in complete MANUAL MODE.	
8200	4"	6.53	B2Ipg		~85 S.N.R.			31c.			
								32c;		done manually.	
8095		6.53	B2Ipg					33c;		~	
6350		6.53	B2Ipg					33c;			
								32c.		done manually	
								1		CCD T = -107.5°C	
		6.53	B2Ipg					33c;			
								34c		(30 OBS)	
								35c;	used	N D in eyepiece To ~~Stir~~ protect it from flat.	
		All to Purm & Worseus									

167

Date 1993 Dec 12/13 Observers HIW / [BIn]

Emulsion Batches:

CSS 3B6 time 16 seconds ahead of WWF

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T. +16sec	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
ccl8294	Bias (4)								
95/96	Comp/Stellar	Hartman				+0:25	+43:06	FeAr Clear	60s
297	Comp							FeAr Clear	60s
298	HD235679	21 55 00	+54 01	17:55:14					1800s
299	Comp							FeAr Clear	60s
300-302	3× flat							Tung ½ Ap	4s
303	Bias (4)								
cg30206-9	4× HD224720	23 55 01	+46 23						67ms
ccg30210, 11	2× HD224720	23 55 01	+46 23			-0:06 E	+47		133ms
304	Comp							FeAr Clear	60s
305	HD6456	01 00 91	+20 56	18:57:29		-0:53E			324s
306	Comp							FeAr Clear	60s
307-309	3× flat							Tung ½ Ap	4s
310	Bias (4)								
311	Bias (4)								
12/13	Comp/Stellar	Hartman						FeNe Clear	20/33

Spectr. Temp.
Focus
Spectr. Temp.

Exp. Mtr | Se
2540

Spectr. Temp. ..... Dome Temp./Hum. -2.4°C / 71.5 % Transparency Conditions .. Hazy 88

Focus ..... 6.97 ..... FANS ON. (South one turned off @ 1800)

Spectr. Temp. ..... Dome Temp./Hum. ..... 480 0 50 1024 4 1 ccd fmt

Exp. Mtr.	Seeing	~~Ptg.~~ Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~ clambda	~~P.H.~~ ci	Program	Remarks	Quality
				Cass CCD	1800 ℓ/mm G=6055	300μ	6563Å	1 c		78% Humidity on Catwalk @ 1800	
								3/4	Focus Test		
								5			
2540	~2"	B= 9.21	B2.5 Ib	→ Continuum ~		170	S.N.R.	6	Bln	Nice seeing!	
				→ strong Hline ~		280	S.N.R	7			
								8		Max ADU ~ 13000	
								1			
		7.3	A2 V						Seeing Test	little to no wind, some haze	
		7.3	A2 V						Seeing Test	dome west	
								9			
14000		V= 5.34	A II		~300	S.N.R.		10 c	Telluric Std		
								11			
								12			
								1			
				Cass CCD	1800 ℓ/mm G=4065	250μ	3730Å	1		T = -2.1°C	
								3/4		focus = 7.12	

2.69

Date 1993 Dec 12/13 Observers HIW / [BIn]

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T. +16 sec	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Spectr. Temp. / Exp. Mtr.
cc18314	Comp							FeNe Clear	30s	
15	HD197345	20 38 01	+44 55	19:48:37					40s	50K
16	Comp							FeNe Clea-	30s	
17	Comp							FeNe Clear	30s	
18	HD37479	05 33 45	-02 38 48	20:09:08		-3:50 E	-2°:30'		1800s	7:00
19	Comp							FeNe Clear	30s	
20	Flat							Tung Clea-	200s	
21	Bias (average of 4)									
22	HD37479	05 33 45	-02 38 48	20:49:14		-3:10 E	-2°:30'		1832s	8:30
23	Comp							FeNe Clea-	30s	
24	Flat							Tung Clear	200s	
25	HD37479	05 33 45	-02 38 48	21:27:59		-2:30 E	-2° 30'		1800s	9:00
26	Comp							FeNe Clear	30s	
27	Flat							Tung Clear	200s	
28	Bias (4)									

Spectr. Temp. ..... Dome Temp./Hum. -2.2°C/71.5% Transparency Conditions ... Clear, some haze

Focus ... 7.12 90

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	~~P.H.~~ Ci	Program	Remarks	Quality
				Cass CCD	1800 ℓ/mm G=4065	250μ	3730	5		83% Humidity on Catwalk @2000	
50 k	2"	V= 1.26	A2 I_a					6	Bln Balmer Series	Done so H/w could recognize the Balmer Series	
								7			
								8			
7000		V= 6.53	B2 I_{pe}		~50	S.N.R.		9	Bln He St.		
								10			
								11		84% catwalk humidity @ 2100	
								1			
8130		V 6.53	B2 I $_{pe}$		~100	S.N.R.		12	Bln He St.	Now guiding above slit, to compensate for differential refraction	
								13			
								14			
9000		V 6.53	B2 I $_{pe}$		~115	S.N.R.		15 Ci	Bln He St.		
								16 Ci			
								17 Ci			
								1			

3. a1

Date 1993 Dec 12/13 Observers HLW / [BIn]

Emulsion Batches: .....

Spectr. Temp. .....

Focus .....

Spectr. Temp. .....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T. +16sec	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr	Se
cc18329	HD37479	05 33 45	-02 38 48	22 06 19		-1:50E			1800	9000	2
30	Comp							FeNe Clear	30s		
31	Flat							Tung Clear	200s		
32	HD37479	05 33 45	-02 38 48	22:51:43		-1:06			1800	16050	
33	Comp							FeNe Clear	30s		
34	Flat							Tung Clear	200s		
35	Bias (4)										
36	Comp							FeNe Clear	30s		
37	HD37479	05 33 45	-02 38 48	00:04:46	~~00:00:46~~	+0:08W			1866	16000	
38	Comp							FeNe Clear	30s		
39	Flat							Tung Clear	200s		
40	HD37479	05 33 45	-02 38 48	00:44:36		+0:46W			1810s	7640	
41	Comp							FeNe Clear	30		
42	Flat							Tung Clear	200s		
43	Bias (4)										

Spectr. Temp. ..... Dome Temp./Hum. -2.6°C/72.5% Transparency Conditions Clear

Focus 7.12

Spectr. Temp. ..... Dome Temp./Hum. .....

92

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~ clambda	~~P.H.~~ Ci	Program	Remarks	Quality
9000	2"	V= 6.53	B2 IIIpe	Cass CCD	1800 g/mm G=4065	250 μ	3730 Å	18	Bln He Str	Catwalk Humidity = 81% → 140 S.N.R. @ 2300	
								19			
								20			
16050		V= 6.53	B2 IIIpe		~130 S.N.R. (ignore noise ratio)			21	Bln He St.	Problems with rack motion and Spectrograph controller; had to reset and home rack manually	
								22			
								23			
								1			
								24			
16000		V= 6.53	B2 IIIpe		~125 S.N.R.			25	Bln He Str	start of shell phase!	
								26			
								27		77% on catwalk @ 0100	
14640		V= 6.53	B2 IIIpe		~130	S.N.R.		28	Bln He St.	Some narrow balmer lines beginning to show up.	
								26			
								27			
								1			

4 93

Date 1993 Dec. 12/13 Observers HLW / [BIn] / [Mki] = safety check

Emulsion Batches: .....

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr	Se
cc18344	HD37479	05 33 45	-02 38 48	01 27 19		+1:29W			1814	15329	
45	Comp							FeNe Clear	30s		
cg30212-5	HD57263	07 15 24	+39 11 05	0200					67ms		
cg30216,7	HD57263	07 15 24	+39 11 05						133ms		
346	Flat							Tung Clear	200s		
47	Comp							FeNe Clear	30s		
48	HD37479	05 33 45	-02 38 48	02 25 59		+2:27W			1800	9200	
49	Comp							FeNe Clear	30s		
50	Flat							Tung Clear	200s		
51	Bias (4)										
52	HD37479	05 33 45	-02 38 48	03 02 05		+3:04W					
53	Comp							FeNe Clear	30s		

Spectr. Temp. ..... Dome Temp./Hum. -2.8°C/66.3% Transparency Conditions Clear / Thick Haze... rolling in from West.

Focus 7.12

Spectr. Temp. ..... Dome Temp./Hum. .....

94

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
15329	3"	V= 6.53	B2Ve	Cass CCD	1800 l/mm G=4065	250μ	3730Å	29	Bln He Str		
								26	→ 120 S.N.R.		
									Seeing Test = light W wind, dome SW		
									Seeing Test = North fan ON		
									South fan OFF		
								27			
								26			
9200		V= 6.53	B2Ve	94 ~ S.N.R.				30	Bln He Str	- We are looking through	
								26		some thick haze now.	
								27		- poor observing conditions	
										Catwalk Humidity = 81%	
								1		@ 0230	
		V= 6.53	B2Ve	~ 80 S.N.R.				31	Bln He Str		
								26		Lost back up	
				All to WORM & Perseus.							

pg # 1 95

Emulsion Batches:

Date 1993 Dec 13/14 Observers V.St./Jn

CSS 386 Time matched to UWV Time

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC18354	BIAS(4)								
55 56	Comp / Stellar					≃0	≃43°	FeAr Clear	
CG30218-21	HD 223094	23 46 06	+28 40 02			≃0		4x	67 sec
CG30222,23	4							2x	133 sec
CC18357	Comp							FeAr Clear	60s
58	HD 223094	23 46 06	+28 40 02	18 33 07					
59	Comp							FeAr Clear	60sec
60	Comp							"	"
61	HD 25640	03 59 08	+50 04 48	19 02 42					240
62	Comp							FeAr Clear	60s
63	Comp							"	"
64	Nova Cas 93	23 39 22 (1950)	+57 14 23	19 19 07					77sec
65	Comp							FeAr Clear	60sec
66	Nova Cas 93	23 36 59 (1900)	+56 57 45	19 30 00					123
67	Comp							FeAr Clear	60sec

Spectr. Temp. ..... Dome Temp./Hum. +010°C 76% Transparency Conditions ... Hazy - cloudy 9L

Focus ... 6-90 .....

Spectr. Temp. ..... Dome Temp./Hum. .....

No FANS Tonight, Dome open Early

Exp. Mtr.	Seeing	P.V. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800 l/m G=6055	300μ Full Length		1ci			
								3/4	Focus		
	Fine	745	K5III			Above 300μ slit.			seeing test	Dome 55°W, no wind Same Star for encoder runs also.	
	"								" "		
								5ci			
4000	2"							6ci	Std vel		
								7ci			
								8ci			
12,000	~~1.2"~~	4-29	A0IIIn					9ci	Telluric Std	(one of Bln stds)	
								10ci			
								11			
~600	1"	26						12	Raw Nova For Vst	Almost as bright as F.O.V. Star 15 min N (close to Satin & Hx)	
								13			
~860		~6						14			
								15			

pg#2 97

Date 1.9.93..Dec.13/14 Observers ...V.St./...T.n.....

Emulsion Batches:
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Spectr. Temp.
Focus...69
Spectr. Temp.

Plate No.	Object	R.A. 1900 (1950)	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr	Se
cc18368	Nova Cas 93	23 39 22 (1900)	+57 14 23	19 45 54					94sec	870	
69(?)	Comp [failed]	23 36 59	+56 57 45	19 52	(Nova Cas 93 in hand, forgot it)			FeAr Clear	60sec		
70	BIAS(4)			19 52 46							
71	Comp			20 13 24				FeAr Clear	60s		
72	HD56148	07 10 46 (1900 processed)	+61 46 40	20 18 06					1560sec ~ 26min	1650	2
73	Comp							FeAr Clear	60s		
74	HD56148	07 10 46	+61 46 40	20 54 31		04 42E			1809s	1925	1
75	Comp							FeAr Clear	60s		
76 (orig 77)	~~HD56148~~	~~07 10 46~~	~~+61 46 40~~								
→80	FLATS x5					04 35E	+61 35	TWIG Ap 1/2	4sec		
81	BIAS(4)										

Spectr. Temp. ..... Dome Temp./Hum. +004°C 80.3% Transparency Conditions Hazy 98

Focus ... 690 .....

Spectr. Temp. ..... Dome Temp./Hum. +001.1°C 86.5%

Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
870				CASS CCD	1800l/mm, G-6055	300u Full length	6563Å	15c;		Not an equipment problem	
								~~16c;~~		LOST 1 No comp Just short DARK 60 secs	
								16c;			
								17c;			
1650	2"	8.5	FOI					18c;	Vst pgm	100/1 S/N	
								19c;			
1925	1-2"							20c;	Vst pgm	Air mass = 1.45	
								21c;			
								22c;		MAX = 14K ADU	
								1c;			
						All TO PERSEUS & WORM					

pg#1 99 Tues/Wed

Date 1.993. Dec 14/15. Observers V.S.t./.I.n.....

Emulsion Batches:

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Spectr. Temp.

Focus ..6.8

Spectr. Temp.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr	See
CC18382 83	Comp/Stellar	Hartman	Pairs		1719	00 11W	+35°	FeAr Clear	60/60 ~~45/50~~		
84	BIAS(4)										
85	Comp			1731				FeAr Clear	60s		
86	HD177724	190049	+134253	173409		0348W				45k	
87	Comp							FeAr Clear	60s		
88	Comp							1	2		
89	HD223094	23423	+280854			0023E			457	4450	1
90	Comp							FeAr Clear	60s		
CG30224 27	HD223094	234123	+280854			0005E		4 x	67ms		
CG30228 - 29	"							2x	133ms		
CC18391	BIAS(4)										
392	Comp										
393	Nova Cas 93	233659	+565745	183218					89s	1:10	3
394	Comp							Fe Ar Clear	60s		
395- ~~Flats x 3~~	Flats x 3							Tung ½ Ap.	4s		
398 ~~399~~	Comp							FeAr	60s		

Spectr. Temp. ..... Dome Temp./Hum. +2.9°C... 50%/9H Transparency Conditions .. Part Cloudy ....100.

Focus .. 6.86 .....

Spectr. Temp. ..... Dome Temp./Hum. ..... FANS on by 1645 90 CGAin CCDT -> -100°

Exp. Mtr.	Seeing	Pwr. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800 l/mm G=6055	300μ FULL	6563Å	3ci/4ci		453-462 nm/at	
								1ci		(FOR encoders) Tel Roam Star HR8632	
								5ci			
25M		2.99	AOV m					6ci	TelAric Std	AIRMASS = 1.79	
								7ci			
								7ci			
4450	1-2"	7.45	K5 III					8ci	Std Vel		
								9ci			
	Fine					Above 300μ slit			Seeing Test	V Light East wind Dome SW Facing	
									" "		
								9ci			
1000	3"	6						10ci		SAME as last night	
								11ci			
								2ci			
								1bci			

1942 Tues/Wed 101

Date Dec 14/15 Observers Vst/Tn

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr	Spectr. Temp. / Focus / Spectr. Temp.
CC 18400 B399	HD56148	07 10 46	61 46 40	~~18~~:52:52		-6 37 20 E			1800s	1.50	
18401	comp							Fe Ar clear	60s		
402	HD56148	07 10 46	61 46 40	19:26:53		-6° E			1800s	1.00	
~~404~~ 403	Comp							Fe Ar Clear	60s		
403 ~~404~~	BIAS (4)										
405	comp							Fe Ar clear	60s		
406	HD58807	07 22 06	61 18 00	20:12:01		5 27 E			1920	1.75	
407	Comp							FeAr Clear	60s		
~~408~~	~~HD58807~~	~~07 22 06~~	~~61 18 00~~								
~~408~~	~~HD58807~~	~~07 22 06~~	~~61 18 00~~	~~20:53:48~~							
→408 410	FLATS x 3				0	00 Hrs	-23°	Tung Ap 1/2	4s.		

Spectr. Temp. ..... Dome Temp./Hum. +3.0 Transparency Conditions ... clear 102
Focus ... 6.86 ... - incr cloud fast from East
Spectr. Temp. ..... Dome Temp./Hum. +44.1% H

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1680	OK	m_b = 9.2	FOI	Cass CCD	1800 l/mm G:6055	300 μm full	6563 Å		Vst (+C)	>IN 13571	
~1700	2"-3" ~~2"-3"~~	m_b = 9.2	FOI					19c;	Vst pgm	IN	
								20c;			
								1c;			
								20ci	write-in into 17ci		
1775	2"-3"	m_b = 9.2	F3I					21ci;	Vst pgm	edit done 1.64 Airmass time!	
								22ci			
		m_b = 9.2	~~F3I~~					~~23c;~~	Vst pgm	Cloud now.	
								23c;			
									All to warm = Perseus,		

Py #1 103 Wed/Thurs

Date 1993 Dec 15/16 Observers B.H./I.T.

Emulsion Batches:

CCS only 2 secs ahead at WWV Time

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC18411 412	Comp/Stellar	Focus posn.			1715	00 00	+44°	FeAr Clear	40/40
413	BIAS(4)								
414	Comp							FeAr Clear	60s
415	HD177724	19 0049	+1343	17 2228		0342 FaR W			222.
416	Comp							FeAr Clear	60s
417	Comp							"	60s
418	BD+26 3835	20 0936	+2627	17 3454		0321 W			2324
419	Comp							FeAr Clear	60s
420	BIAS (4)								
421	Comp							FeAr Clear	60s
422	HDE235679	21 5500	+5401	23 2302		0212W			1557
423	Comp								
CG30230 33	HD223094	23 4123	280854		19	00 35W		4 x	67ms
- 34 35	"	"	"		19 00	00 36W		2 x	133ms
CC18424	Comp For next star		HD223094					FeAr Clear	60s

Spectr. Temp. ..... Dome Temp./Hum. +5.0°C 45.0%H Transparency Conditions . Fine ..... 10.4..

Focus ... 6.86 .....

Spectr. Temp. ..... Dome Temp./Hum. ..... CCDT → 100° 90CGAIN

Exp. Mtr.	Seeing	Pix. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
				CASS CCD	1800 l/mm G=6065	300μ Full	6604Å	3c/4c.	Focus	ideal for s/l cooler Temp	S/N
								1c;			
	~~8"~~	2.99	AO					5c;	Telluric STD	1.74 AIR MASS	
30,000	8"	2.99	AOIn					6c;	↓	↓ MA×8A 4DQ	
								7c;			
								8			
2500	4"	8.6 -9.3	B8					9c;	SB Bln pgm (20K photons, Σ AVG above Background	Thin cloud from NE 1.35 AIR MASS	140/1
								10c;			
								1c;			
								11			
900	3"4"	~~9.6~~ 8.86	B2.5Jb					12c;	SB Bln	1.066 Airmass@START	
								13			
Int=440 G1 mode.									Seeing Tests	NO FANS Tonight	
		7.45	K5III						Dome SW	Medium gusty NE Wind	
								14c;			

pg #2 165

Date 1993 Dec 15/16 ... Observers [Bln] ... In .....

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Spectr. Temp. / Focus / Spectr. Temp. Exp. Mtr.	Se
CC 18425	HD 273094	233123	+280854	190321		0047W			521	4:00	2
26	Comp							FcAr Clear	60s		
27	BIHS(4)										
28	Comp							FcAr Clear	60s		
29	HD6456	01 00 19.1	+20 56 16	192127		0014E				L&K	3
30	Comp							FcAr Clear	60s		
31	Comp							"	"		
32	HD 19832	030617	+26 5248	193553		0206E			548	13:00	3
33	Comp							FcAr Clear	60s		
34	Comp							"	"		
35	HD 21699	032504	+474057	195248		0210E			472	13:30	3
36	Comp							FcAr Clear	60s		
37	Comp							"	"		
38	HD 25642	035908	+500448	201447		0227E			175	13:00	4
39	Comp							FcAr Clear	60s		
40	BIHS(4)										

Spectr. Temp. ..... Dome Temp./Hum. +4.2°C 48.6%H Transparency Conditions .. Better, some clouds

Focus ... 6-86 .....

Spectr. Temp. ..... Dome Temp./Hum. .....

105

Exp. Mtr.	Seeing	Pix. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
4000	2"-3"	7.45	K5III	CHSS CCD	1800l/m G=6065	300μ Full	6604Å	15c;	Std/vel	MAX 6400 ADU	
								16c;			
								1c;			
								17			
16K	3"	5.34	AIVn					18	Telluric Std	An OK Telluric Std. Indeed, NW one of pair 1.086 AIRMASS 6K ADU MAX	
								~~19c;~~			
								19c;			
12,000	3"	5.79	B8(sg)					20c;	He weak Bln	5K ADU MAX	
								21c;		(check 21 ugst 79)	
								22c;			
13,300	~~3-4~~	5.48	B5Vsn (HeW)					23c;	He wk Bln		
13000	4"	4.29	A0IVn					26c;	Bln	A shell STAR?	
								~~24c;~~			
								1ci			

pg #3 167

Date 1993 Dec 15/16.... Observers [Bls]....Tn.....

Emulsion Batches:
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Spectr. Temp.
Focus.....6
Spectr. Temp.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr.	Se
CC1844 43	FLATS x 3					02 20E	+50°	TUNG ~~Ap 1/2~~	4s		
44	Comp						FeAr	Clear	60s		
45	HD 35502	05 20 00	-02 54 22	20 30 45		03 03E			1805	2700	6
46	Comp							FeAr Clear	60s		
47	Comp							"	60s		
48	HD 36485	05 26 54	-00 21 30	21 08 01		02 31E			1830	6400	6
49	Comp							FeAr Clear	60s		
50	Comp							"	"		
51	HD 37479	05 33 45	-02 36 46	21 45 40		02 19E			736	2800	8
out of square 53 52	Comp							FeAr Clear	60s		
	BIAS ~~wipe off~~										
54	HD 37468 COMP	05 33 44	-02 39 28	22 03 47		02 11E		~~FeAr~~ Clear	127s ~~60s~~	8700	
55								FeAr Clear	60s		
56	HP 37468	05 33 44	-02 39 28	22 09 16					295	17K	10
57	Comp							FeAr Clear	60		

Spectr. Temp. ..... Dome Temp./Hum. +2.7°C 61% Transparency Conditions ... SI. hazy ... some clouds ... OK though

Focus ... 6.86 .....

Spectr. Temp. ..... Dome Temp./Hum. .....

108

Exp. Mtr.	Seeing	Prg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
				CASS CCD	1800 G6065	300 μm	6604?	2c;		MAX 12×40	
								25c;			
2900	6"	7.36	B5 IV sn					26c;	He weak Bln		
								27c;			
								28c;			
6800	6-8"	6.85	B2V sn (HeS)					29c;	He str Bln ≈ 2k 40A max		
								~~30c;~~			
								30c;			
2900	8"	653	B2V pe (HeS)					31c;	He str Bln	Air mass 1.788	
								5c;			
								1c;		Dome T = +1.5°C	
8,700		3.81	09.5V					6c;	Bln pgm	MAX 1-500 A001	
								7c;	Seeing too poor To Resolve MS 424/9		
17K	10-15"							8c;	Bln Pgm (Repeat)	From AB	

pg#4 109

Date 1993 Dec 15/16 Observers [Bly] Ts

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc18458	Comp							FeAr Clear	60s
59	HD 19832	03 06 17	+26 52 48	22 20 40		00 40 W			574
60	Comp							FeAr Clear	60s
61 → 66	FLATS x6	NOTE: 462 IS NOT A FLAT (LAMP NOT FIRE)				"	"	TUNG Ap 1/2	4s
67	BIAS(4)								
68 69	Comp/Stellar	HARTMANN						FeNe Clear	20/30
70	FLAT					01 20E	-2 40		200s
71	Comp							FeNe Clear	30s
72	HD 37479	05 33 45	-02 38 48	22 59 49		00 52E			1499
73	Comp							FeNe Clear	30s
74	HD 37479	05 33 45	-02 38 48	23 27 13					1507
75	Comp							FeNe Clear	30s
76	HD 37479			23 54 29		00 2W			1464
77	Comp							FeNe Clear	30s
78	HD 37479			00 21 07					1565

Spectr. Temp. 6
Focus
Spectr. Temp.

Exp. Mtr.	Sc
7K	8
T=+	
.0K	6
7K	
	8
10:K	5
11K	4

Spectr. Temp. ..... Dome Temp./Hum. +1.7°C ... 70.2%H Transparency Conditions ... Clear ... U.O.

Focus ... 6-86 / => ~~7.06~~ for 3730Å
=> 7.04

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800 G-6065	300	6604Å	10			S/N
7K	8"	5.79	B8Si					11	He wash pgm	Repeat of one @ 1935	
								13ci		.7284 per .00	
								32ci		MAX = 12K ADU	
					1800 G-4065	~~350u~~ FU	3730Å		~~He Str Bln~~		
T=	+1.2°C	Set	~~7.06~~ 7.04		(Should have Been	300u	"	3/4	focus Test	x plot 438-447	
						250					
					as used Before at this λ			5ci			
10K	6"-5	V 6.53	B2V pe (He S)					12ci	He Str Bln	15K photons Σ Avg 7.00/1	
								5ci			
8.6K								13ci			
~~8.6K~~	~~5"~~							5			
10.5K	5"							14ci		16K photons Σ Avg	
								5ci			
11K	4"							~~5~~ 5ci	(5ci)		

111 pg #5

Date 1993 Dec. 15/16... Observers [Bln]... Tn.....

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC18479	Comp							FeNe Clear	30s
80	HD 37479	05 3345	-023848	00 4934					80s
81	Comp							FeNe Clear	30s
82	HD37479	05 3345	-023848	010742		01 13 W			1324
83	Comp							FeNe Clear	30s
84	HD37479			013154					1407
85	Comp							FeNe Clear	30s
86	BIAS(4)								
87									
88	FLATS x2					≈02W	-2°40'	Tung A 1/2	4sec

↓

should have been clear.

↳ what does this mean?

Just that I had intended to use Aperture=Clear. No Big deal Tn

Spectr. Temp. ..... Dome Temp./Hum. 10.5°C ... 77% Transparency Conditions ... some cloud ... 1.12

Focus ... ~~7.06~~ 7.04 .....

Spectr. Temp. ..... Dome Temp./Hum. 10.3°C ... 80% * should perhaps been 250u slit / Forgot to change

Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks From 300u	Quality
					* 300u		~~6604Å~~	7c;			
6000	4"	653	B2V pe (He S)				3730 Å II	15c;	He str Blu	some cloud & end	
								7c;			
6000	8"							16c;		cloudy mostly	
8500	6"-10"							17c;		cloud @ end	
								7c;			
								1c;			
								33c;		MAX 4720 ADU	
				A							
					All To Perseus & WORM						

1 1/3 Thurs/Fri

Date 1993 Dec 16/17 Observers HIW/[Rm]

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
cc18489	Bias (4)		cc386 clock 3 seconds ahead of WWF time							
90/91	Comp/Stellar	Hartman		↓ this time is read off the cc386 (i.e., correct it by subtracting 3 seconds)				FeAr Clear	30/35	
92	Comp							FeAr Clear	60s	
93	HD198726	20 ~~24~~ 47 13	+27 52 30	18 22 52					200s	5200
94	Comp							FeAr	60	
95	Comp							FeAr	60	
96	HD203156	21 15 23	+37 49	18 36 27					300s	5400
97	Comp							FeAr	60	
98	Comp							FeAr	60	
99	HD213998	22 30 13	-00 37 59	18 54 16					133s	10000
18500	Comp							FeAr	60	
501	Bias (4)									
502	Comp							FeAr	60	
503	HD214975	22 36 55	+56° 18.4	19 08 26					1268	3000
504	Comp							FeAr	60	

Spectr. Temp. ..... Dome Temp./Hum. +0.2°C/64.2% Transparency Conditions ... Clear ... 114

Focus ... 690 ... Dome Fans ON @ 1700, south one turned off at 1815.

Spectr. Temp. ... 90 cgain ... Dome Temp./Hum. ..... 480 0 50 1024 41 ccdfmt

Exp. Mtr.	Seeing	~~Pts.~~ Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800 ℓ/mm G=5910	300μ	6400Å	1		Noted upon arrival ① Hartmann Mask left in 'Comp' position ② Home mirror gone!	
								3/4			
					Signal to Noise Ratio			5		75% Catwalk Humidity @ 18:3	
5200	~4"	5.75	GOIb		S.N.R	~230		6	Rm (T Vul)		
								5			
								5			
5400		5.9	F2		S.N.R	~250		7	Rm		
								5			
								5			
10000		4.02	B9 III-V.		S.N.R	~290		8	Telluric		
								5			
								1			
								5			
3000		8.4	GOIb		S.N.R	~220		9	Rm		
								5			

2 115 Thu/Fri

Date 1993 Dec 16/17 Observers HIW / [RM] TN

Emulsion Batches: .....

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Spectr. Temp. .....

Focus .....

Spectr. Temp. .....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr.	Seeing
c 505-509	5× Flat							Tung 1/2 Ap	5s		
cg30236-39	4× HD10006	01 32 36	+45 50	2000		-0:10E			67ms		
cg30240-41	2× HD10006	01 32 36	+45 50	2000		-0:10E			133ms		
cc18510	Comp							FeAr Clear	60s		
11	VY Per	02 20 19	+58 28 01	20 21 40		0012 W			3123	515	2.3
12	Comp							FeAr Clear	60s		
13	VY Per	02 20 19	+58 28 01	21 21 40		0102W			2779	405	2.4
14	Comp							FeAr Clear	60s		
15	BIAS (4)										
16	Comp							FeAr Clear	60s		
17	HD25361	03 56 41	+58 27 58	22 13 04					1380s	350	2.5
18	Comp							FeAr Clear	60s		
19	Comp							FeAr	60		
20	HD237190	03 46 10	+58 21 18	22 44 50					1859s	300	
21	Comp							FeAr	60		

Spectr. Temp. ..... Dome Temp./Hum. -0.3°C/64.7% Transparency Conditions Clear 1.16

Focus 6.90

Spectr. Temp. 90 again Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800 l/mm G=5910	300μ Full Length	6400Å	10i		Catwalk Humidity = 81% @ 2000	
		7.5	K5						Seeing Test	No Wind, North fan ON	
									Seeing Test	No Haze: Very clear.	
								5			
515	2-3"	10.8 -11.66	F5-F9					11	Rm pgm	11K photons ΣAvg = 100/1	S/N
								12c.			
405	2"							13c.	Rm pgm	Repeat to get S/N up	
								14c.			
								15c.			
								16			
								17			
3500	2-3"	7.30 -8.07	F6 F6 - G2 I6					18	Rm pgm		
								19			
3000		8.64	G0 I6								

3 | 17 Thu/Fr

Date 1993 Dec 16/17 Observers [Rm]/Tn/HW/[Bh]

Emulsion Batches: .....

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc18522	Comp							FeAr Clear	60s
23	HD29260	04 31 26	18 20 24	23 24 31					600s
24	Comp							FeAr Clear	60
25	Comp							"	"
26	HD30282	04 41 05	+36 32 36	23 41 32		00 43W			
27	Comp							FeAr Clear	60sec
28	BIAS(4)								
29	Comp							FeAr Clear	60sec
30	HR SAO039783 (5V per hr)	04 4246	+42 0648	00 1309					
31	Comp			00 54				FeAr Clear	60sec
32 → 34	FLATS x 3					01 33W	+42 17	TUK Ap1/2	4sec
35 36	Comp / Stellar	HARTMAN		01 00		"	clear	FeAr	60/60
37 38	" "	"						FeNe Clear	40/55
39	Flat	@ HD37479 position,					−3°		
40	Comp							FeNe Clear	30s

Spectr. Temp. 6
Focus .....
Spectr. Temp.

Exp. Mtr	Sec
4020	
4008	2
3986	2

Spectr. Temp. ..... Dome Temp./Hum. -1.8°C / 60.8% Transparency Conditions Clear, Crystal. 11/8

Focus 6.90 → 7.05 for 3730Å setup

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800ℓ/mm G=5910	300μ	6400Å	20			
4000		6.33 -6.75	F5Ib -F9.5 Ib					21	Rm		
								20			
								20			
4000	2"	B= 7.9-8.8	F6 -G2					22	Rm		
								5ci			
								1c.			
								5ci			
2800	2"	8.95	G0Ib					23ci	Rm	>200/1 S/N	
								5ci			
								24ci		10K MAX ADU Row II	
T=-25°C		set 6.90						25/26		Right on @ 440	
T=-25°C		Set 7.05			1800ℓ/m G4065	250 pointed packed	3730Å	25/26			
								28			

4. 119 Thu/Fri

Date 1993 Dec 16/17 Observers [Bln]/Tn/Hlw /[Rm]

Emulsion Batches:
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.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc18541	HD37479	05 33 45	-02 38 48	01:30:00		+1:44W			1500
42	Comp							FeNe Clear	30s
43	Bias (4)								
44	HD37479	05 33 45	-02 38 48	01:58:46		02 12W			1500
45	Comp							FeNe Clear	30s
46	HD37479	05 33 45	-02 38 48	02 26 27		2.40 W			1500
47	Comp							FeNe Clear	30s
48	HD37479	05 33 45	-02 38 48	02 53 46		3:05 W			1500
49	Comp							Fe Ne Clear	30
50	HD37479	05 33 45	-02 38 48	03 21 21		3:34 W			1500
51	Comp							FeNe Clear	30
52	Bias (4)								
53, 54	2x Flat							Tung Clear	200
55, 56	Comp / Stellar					1 W	+21°	Fear	60/60
57	Comp							Fear Clear	60

Spectr. Temp. ..... Dome Temp./Hum. -3.0°C / 60.9% Transparency Conditions Clear 1.20.

Focus 7.05 → 6.92 for Rm

Spectr. Temp. ..... Dome Temp./Hum. .....

CCDT = -101.5°C @ 0140

Exp. Mtr.	Seeing	Ptg. √Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	Ci P.H.	Program	Remarks	Quality
8000		6.53	B2VIpe	Cass CCD	1800ℓ/mm G=4065	250μ	3730Å	29	Bln He Str	~130 S.N.R.	
								30			
								1 ~~31 C 38~~			
8/60	3"	6.53	B2VIpe					31	Bln He Str		
								30			
~8 k								32	Bln He Str		
								33			
7500		6.53	B2VIpe					34	Bln He Str		
								35			
7100		6.53	B2VIpe					36	Bln He Str		
								37			
								1			
								38			
6.92 T = -		3.6 C			1800ℓ/mm G=5910	300μ	6400Å	3C1/4C	Focus		
								5			

5.121 Thu/Fri

Date 1993 Dec 16/17 Observers [Rm]/Tn/Hlw

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc18558	NGC 2539 #60	08 05 41	-12 26 45	04 18 44					2700s
59	Comp							FeAr Clear	60s
60	Bias (4)								
61	Comp							FeAr Clear	60s
62	HD 75435	08 47 54	27 18 00	05 19 24		02 02W			595s
63	Comp							FeAr Clear	60s
cg30242-30245	4× HD90861	10 24 17	+29 05 35	05 35					67m
cg30241,7	2× HD90861	10 24 17	+29 05 35						133m
64	Comp							FeAr Clear	60
65	HD90861	10 24 17	+29 05 35	05 41 36		0:45W			447s
66	Comp							FeAr	60
67	Comp							"	60
68	HD87901	10 03 03	12 27 22	05:54:53		1:16W			42s
T1	Comp					n		"	60
* ~~T2~~	3× Flats	(cc18569, 70, 72.)						Tung Clear	5s
73	Bias (4)								

Spectr. Temp.
Focus
Spectr. Temp.

Exp. Mtr.	Se
208	
3370	
1580	
2700	

Spectr. Temp. ..... Dome Temp./Hum. ~3.8°C/60.9% Transparency Conditions ..... Clear 122

Focus ..... 6.92 ..... To incr cloud.

Spectr. Temp. ..... Dome Temp./Hum. ~3.8°C 65%

Exp. Mtr.	Seeing	√Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
208	3"	10.96	B-V = 0.69	Cass CCD	1800 l/mm G=5910	300μ	6400Å	6ci	Rm/Hlw	60 (S/N)	
								7			
								7ci			
3370	3"	8.62	G8 V					8ci	stilvel.		
								9ci			
		6.9	K2 III						Seeing Test		
		6.9	K2 III						Seeing Test		
								10ci			
2500		6.9	K2 III					11ci	Rem Std Velocity.		
								12c.			
								13ci			
25000		1.35	B7 V					14ci	Telluric		
								15ci			
								16	All TO Perseus last & W.O.R.M set warm		

1 123

Date 1993 Dec 19/20 Observers HIW / EVyss

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc18574	Bias (4)								
75	Comp					Zenith		FeNe Clear	20
76	Comp					"		"	"
77	Comp					"		"	"
78	Comp					"		"	"
79	Comp							FeAr Clear	20
80	Comp							"	"
81	Comp							"	"
82	Comp							FeNe Clear	1 sec
83	Comp							FeNe Clear	20

Spectr. Temp. -100.0°C Dome Temp./Hum. +2.5°C / 80.3% Transparency Conditions Cloudy, Wet. 124

Focus 6.92

Spectr. Temp. ..... Dome Temp./Hum. ..... 480 0 50 1024 41 ccdfmt

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~ clambda	P.H.	Program	Remarks	Quality
				Cass CCD	1800 ℓ/mm	300μ		1			
					G=4863		4940Å	3	more like 4936Å	Max ADU = 1200	
					G=5000		5133Å	4		Max ADU = 2500	
					G=5115		5303Å	5		Max ADU = 5400	
					G=5304		5570Å	6		Max ADU = 1200	
					G=5720		6146Å	7		Max ADU = 480	
					G=6202		6780Å	8		1500	
					G=6085		6630Å	9		1400	
					G=6780		7490Å	10	Only 5 lines!!!!	Max ADU: 7800	
					G=7032		Unidentified			Two orders appear in image Which is IR?	
				All to Perseus & WORM							

Aj. 125 Wed / Thurs

Date 1993 Dec. 22/23 Observers [Blu/Rm] Tu/Hlw...

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr	Sc
cc18584/85	Comp / Stellar	Hartmann posns						FeAr Clear	40/40	Note F (27	
cc18586	BIAS(4)										
87	Comp							FeAr Clear	60s		
88	HD 33328	05 04 22	-08 53 00	21 36 03		01 35E			478	10,855	
89	Comp			21 52 39	(a bit late due to Failure)			FeAr Clear	60s		
90	HD 33328	05 04 22	-08 53 00	21 55 49		01 03E			1286	17,200	6
91	Comp							FeAr Clear	50s		
92	Comp							FeAr Clear	60s		
93	Bias (4)										
94	HD 87901	10 03 03	+12 27 22	22 36 46		05 12E			1785	4,320	8
95	Comp							FeAr Clear	60s		
96	Comp							"	"		
97	HD 37468	05 33 44	-02 39 28	23 18 27					1014s	20,000	5
98	Comp							FeAr Clear	60s		
99	Comp							FeAr Clear	60s		

Spectr. Temp.
Focus... 6.9
Spectr. Temp

Spectr. Temp. ..... Dome Temp./Hum. *6.8°C 59%H Transparency Conditions .. PART Cloudy ..... RL.

Focus ... 6:9.0 ..... FANS on By 21EST

Spectr. Temp. ..... Dome Temp./Hum. ..... CCDT -> -100° 90CGAIN

Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
Note G=6055	Headers say but they're WRONG.			CASS CCD	1800l/mm G=6065	300u Full	6604Å	3/4		*Dome T dropping Fast	
								1			
		4.7						5			
10,855		4.27	B2 IV		~270 S.N.R.			6i	Myron Smith Request	ended By SP control Failure	
								7i		[grating t/t was disabled : should be no problem]	
27,000	6"	4.27	B2 IV		~410 S.N.R.			8i			
								9i			
								10i			
								1i			
12,500	8"	1.35	B7 V					11i	Telluric	AIRMASS=4.00 at end cloudy here	
								12			
								13			
20 000	6-7"	3.81	09.5 V		~350 S.N.R.			14	Bkgnd pgm	D component also on slit	
								15			
								16			

2127

Emulsion Batches: .....

Date 1993 Dec 22/23 Observers [Bln] Tn/Hlw .....

Note CSS Time seem to be 10 secs Fast. Rel to WWV

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc18600	HD25642	03 59 08	+50 04 48	23 46 42		01 51W			1259
01	Comp							FeAr Clear	60s
02	BIAS (4)								
03	Comp							FeAr Clear	60s
04	HD21686	03 24 56	+10 59 37	00 15 21					1036
05	Comp							FeAr Clear	60s
06-16	FLATS x 11							TUNG Ap 1/2	4s
17/18	Comp/Stellar	Hartman						FeAr Clear	40/45
cc18619	Bias (4)								
20/21	Comp/Stellar							FeNe Clear	30/45
22	Comp							"	30s
23	HD37479	05 33 45	-02 38 48	01 03 58					1829
24	Comp							"	30s
25	HD37479	05 33 45	-02 38 48	01 37 25		02 19 W			1813
26	Comp							FeNe Clear	30s

Spectr. Temp. ..... Dome Temp./Hum. -10°C/61.77. Transparency Conditions Some Clouds, Thick Haze

Focus 6.90 / 7.15 128

Spectr. Temp. ... / ..... Dome Temp./Hum. -12.4°C ... 629%H

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
15,300		4.29	AO IV	Cass CCD	1800l G=6065	300μ	6604Å	17	Bln pgm		
								18c			
								1			
								19			
15000	5"	5.14	AO V$_n$					20	Telluric Std	AIRMASS = 1.46	
								21			
								22			
								23/24	Focus Test		
				Cass CCD	1800l/mm G=4065	250μ	3730Å	1			
								3/4	Focus Test	Foc = 7.15, T = −11.8°C	
								5			
?	5"	6.53	B2 V$_{pe}$					6	Bln He Str		
								7			
5600	(5-8")	6.53	B2 V$_{pe}$					8	Bln He Str.	< 100/1 S/N	
								9c			

pg #3 29

Date 1993. Dec 22/23... Observers [Bln-Rm]...Tn./.H.lew....

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc18627	HD37479	05 3345	-02 38 48	02 1012		07 51W			1799
28	Comp							FeNe Clear	30s
29	HD37479			02 4317					1800
30	Comp							FeNe Clear	30s
31-33	3 × Flat					3:30 W	-2:36	Tung Clear	200
34	Bias (4)								
35/36	Comp/stellar	Hurtmann				00 10W	+47°	FeAr Clear	40/5
cg30248-51	HD82582	09 27 46	+47 20 45					4×	.067
cg30252,3	"	"	"					2×	.133
cc18637	Comp							FeAr Clear	60s
38	HD86360	09 5751	+2:55:00	04:17:13					1800
39	Comp							FeA-Clear	60s
40	Bias (4)								
41	Comp							"	60
42	HD112028	12:48:23	+83:57	05:01:00					1930
	Comp								

Spectr. Temp. ..... Dome Temp./Hum. 12.8°C 64.5% Transparency Conditions ... MOSTLY CLEAR NOW ...

Focus ... 7.15 .....

Spectr. Temp. ..... Dome Temp./Hum. -13.5°C 68.4% CCDT = -101.5°C

130

Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
	6"	653	B2 I PE	CASS CCD	1800 G=4065	250u decker	3730Å	10ci	Bln He Str		
								11ci			
5070								11ci	Bln He Str		
								12ci			
								13ci			
										Topup finished 0340	
Sel 7.12		T=-13.4°C		CASS CCD	1800 G=4565	250u FULL	4476Å	3ci/4ci	Focus.	* Actual 512 center = 4490Å	
	poor	6.52	FOV			ABOVE 250u decker			Seeing Test	Dome west	
		"	"						Seeing Test	no wind.	
								11			
24 000		5.17	B9.5 I		~300	S.N.R.		12	Bln	Max ADU ~ 5000	
								13			
								1			
	~~4"~~							14			
25 000	4"	5.28	A2		~315	S.N.R.		15	Bln		

1m Pyt#4 Wed/Thurs

Date 1993 Dec 22/23 Observers [Bln]... H.W. I.T.n.....

Emulsion Batches:
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Spectr. Temp. ...
Focus ... 7.12
Spectr. Temp.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Seei
CC18643	Comp							Fe Ar Clear	60sec		
cg 30254 -57	HD103095	11 47 13	38 26 10						.067s		
cg30258,9	HD103095	11 47 13	38 26 10						.133s		
CC18644	Comp							Fe Ar Clear	60s		
45	HD103095	11 47 13	+382610	05 59 59					1893s	8700	5
46	Comp							Fe Ar Clear	60s		
47	Bias (4)										
48-52	5× Flats							Tung Clear	35s		

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions ..5l...hazy.....

Focus ...7.12.....

Spectr. Temp. ..... Dome Temp./Hum. .....

132

Exp. Mtr.	Seeing	Pkg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
				CASS CCD	1800 with	250 blocked	4476R		Bln pgm		
		6.45	G8Vp						Seeing Test	Dome SW, no wind	
		6.45	G8Vp						Seeing Test		
								17ci			
8700	5"	6.45	G8Vp					18ci	Std vel		
								19ci			
								1			
								20			

All to Perseus & Worm

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Date 1993 Dec 23/24 Observers {Vys} HIW/Tn

Emulsion Batches:

CSS 11 secs ahead of WWV Time

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc18653/4	Comp/Stellar					Zenith	Clear	FeNe	20/30
55	Bias (4)								
56	Comp							FeNe Clear	60sec
57	HD 1326	00 12 58	+43 27 44	17 28 46		0041E			880s
58	Comp								60sec
59	Comp							FeNe Clear	60sec
60	BD+40 45	00 11 52	+40 23 33	17 51 30		00 03E			1800
61	Comp							FeNe Clear	60sec
62-64	FLATSx3							TUNG Clear	7sec
65									
66	Comp/Stellar	HARTMAN						FeNe Clear	20/30
67	Bias (4)								
68	Comp							FeNe Clear	60s
69	BD+40 45	00 11 52	+40 23 33	18 35 47		0:41 W			1800
70	Comp							"	60
71	Comp							"	60

Spectr. Temp.
Focus
Spectr. Temp.

Exp Mtr | Sec

2600 3

1750 2

T=-9.4°C

2100

Spectr. Temp. ..... Dome Temp./Hum. -9.1°C/49.9% Transparency Conditions Clear

Focus 7.07

Spectr. Temp. ..... Dome Temp./Hum. .....

CCDT -> -100C 90 CGAIN

Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
				Cass CCD	1800 G=4863	300μ	4936Å	3/4	Focus Test	T=-8.8°C, foc=7.07	S/N
								1			
								5ci			
2600	3"	8.07	MIle					6ci	Vys Std.	Airmass ~ 1.01	95/1
								7			
								8			
1750	2-3"	9.00	MO					9	Vys Std.	Airmass = 1.005	
								10ci			
								11ci		11.3k ADU max	
T=-9.9°C, Set				CASS CCD	1800 G=6000	300μ	5133Å	3/4	Focus test	~~foc~~ = 7.07	
								1			
								5ci			
2100		9.00	MO					6ci	Vys Std.	Air Mass = 1.01	
								7			
								8			

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Date 1993 Dec 23/24 Observers {Vys} Hlw/Tn

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc18672	HD1326	00 12 58	+43 27 44	19 11 27		0:58 W			720s
73	Comp							FeNe Clear	60s
74 –76	FLATS x 3						Clear	TUNG Apt	3s
77 78	Comp/stellar	Haamm						FeNe Clear	20/30
79	Comp							"	60s
80	Bias (4)							FeNe Clear	0s
81	HD1326	00 12 58	+43 27 44	19 37 12		1:23 W			705s
82	Comp							FeNe Clear	60
83	Comp							"	"
84	BD+40 45	00 11 52	+40 23 33	19 55 03					
85	Comp							FeNe Clear	6s
86 → 88	FLATS x 3							TUNG Ap 1/2	9
89	Comp							FeNe Clear	30s
90	HD14055	02 11 22	+33 23 05	20 27 16					223
91	Comp							FeNe Clear	30s

Spectr. Temp. ..... Dome Temp./Hum. -9.9°C / 50.6% Transparency Conditions ..increasing haze.... BC
-> increasing cloud

Focus ... 7.07 .....

Spectr. Temp. ..... Dome Temp./Hum. -10.1°C ..53.6%.. 1/6 to All λ's Tonight and True Row 512 λ 1 2Å

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2150	2"	8.07	M IV	Cass CCD	1800 G=5000	300μ	5133Å	9ci	Vys Std	X = 1.017	
								10			
								11		10k max	
T=-10.1, Set 7.07					1,500 G=5115	300μ	5303Å	3i/4ci			
								5			
								1			
2200		8.07	M IV					6	Vys Std	1.035	
								7			
								8			
	2-3"	9.00	MO					9ci	Vys Std	cloud at end	
								10ci			
								11ci		10k ADU max	
								12			
0,000		4.01	A I V					13	Telluric		
								14			

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Date 1993 Dec 23/24 Observers {Vys} Hlw/Tn

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC18692	Comp							FeNe Clear	60s
93	HD 35770	05 22 008	+15 47 23	20 43 07					
94	Comp							FeNe Clear	60s
95	BIAS(4)								
96/97	Comp/Stellar Hartmann								40/40
99	HD 35770	05 22 01	+15 47 23	21 06 06	Preceding Comp		CC18698	90sec	43
CC18700	Comp							FeNe Clear	90s
701	Comp							"	"
702	HD 1326	00 12 58	+43 27 44	21 25 16		03 13W			697
703	Comp							FeNe Clear	90sec
→ 704 706	FLATS x 3					n	+44°	TUNG Hp 1/2	
707	BIAS(4)								
708	BIAS(4)			93 19					
cg30260-3	HD 35476	05 19 54	+43 55	23 27				4y	67ms
6465	n							4y	133ms

Spectr. Temp. ..... Dome Temp./Hum. -10.0/53.9 Transparency Conditions Cloudy ... SORT OF ... B36

Focus ... 7.07 .....

Spectr. Temp. ..... Dome Temp./Hum. -9.9°C/55.9% Solid Cloud Ind

Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
				Cass CCD	1800 ℓ G=5115	300μ FULL Length	5303Å	15			S/N
10K2	2"	5.50	B9.5V					16c	Bby (non checked) Telluric Std	1.45 AIRMASS	
								17c			
								1c			
					G=5304	300	5570Å	3c/4c			
10,700		5.50	B9.5V					19	Telluric Std	MAX 7500 ADU Cloud again > 300/1 No Telluric lines seen.	
								20c			
								21c			
500	<2"	8.07	M1 V					22c		1.22 AIRMASS Cloud again	65/1
	~~<2"~~	~~8.07~~	~~M1 V~~					23c			
								24c		13.3 K ADU MAX	
					↑		↑	1c			
					All to Perseus WORM						
		7.48	K0 III						Seeing Test	Dome T = -9.1°C Pier West no wind.	

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Date 1993 Dec 23/24 Observers {Vys} Hlw/Tn

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Spectr. Temp / Focus / Spectr. Temp
cc18709	Comp							FeNe Clear	90s		
10	HD95735	10 57 54	+36 3800	234325		5 14 E			600s	3200	
11	Comp							FeNe Clear	90s		
12/13	Comp / Stellar	Hartman						FeAr Clear	30/35		T=-10°C
14	Bias (4)										
15	Comp							FeAr Clear	90sec		
16	HD95735	10 57 54	+36 3800	00 1444		044 E			603	3250	
17	Comp							FeAr Clear	90sec		
18	Comp							"	"		
19	HD87901	10:03:03	12:27:00	00 38 47		3:34 E			31s	480	
20	Comp							"	90s		
21-23	3×Flats							Tung 1/2 Ap	5s		
24/25	Comp / Stellar	Hartman						FeAr Clear	30/3		
26	Bias (4)										
27	Comp							FeAr Clear	90s		

Spectr. Temp. ..... Dome Temp./Hum. -10.0/57.77. Transparency Conditions ... Clear again 1.40
Focus ... 7.07 ... sl hazy thru ε
Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Pix. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800l/m G=5304	300μ Full Length	5570Å	.			S.N.R.
3200	1-3"	7.48	M2					2c;	Vys Std	X ~ 1.9	160
T=-10.0°C Set=7.02					1800m/m G=5720	300μ FULL	6146	3c1/4c1	Focus Test	Rights on Route 650	
								1			
								5c;			
3250	1-2"	7.48	M2					6c;	Vys Std	1.68 AIRMASS	
								7			
								8			
4800		1.35	B7V					9c;	Telluric	X ~ 1.80	
								10			
								11			
				Cass CCD	1800l G=6085	300μ	6630Å	3/4	Focus Test	Foc = 6.97, T=-10°C	
								1			
								5			

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Date 1993 Dec 23/24 Observers {Vys} Hlw/Tn

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc18728	HD87901	10:03:03	+12:27	01:17:50		2:55E			35s
29	Comp							FeAr Clear	90s
30	Comp							"	"
31	HD95735	10 57 54	+36 38	01:29:15		3:30E			600s
32	Comp							FeAr Clear	90s
33 → 35	FLATS x3					3 30E	+36	TiNG Hp 1/2	4sec
36	BIAS(4)								

Spectr. Temp. ..... Dome Temp./Hum. -10.2°C / 59.7% Transparency Conditions ... Clouds all over the place

Focus ... 6.97 .....

Spectr. Temp. ..... Dome Temp./Hum. -10.2 59.5%

142

Exp. Mtr.	Seeing	~~Ptg~~ √Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
26700		1.35	B TV	Cass CCD	1800 G=6085	300μ	6630Å	6	Telluric	X~1.53	
								7			
								8			
3450	1.5"	7.48	M2					9	Vys Std	X = 1.31	
							All Backed up too.				

Proj #1 143 Sun/Moon

Date 1993 Dec 26/27 Observers [Bln] ..... Tm .....

Emulsion Batches:

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CSS 386 14secs ahead of UWV Time

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC18737 38	Comp / Stellar	Hartman				00 14E	+28 43	FeAr Clear	60/60
39	BIAS(4)								
40	Comp							FeAr Clear	90secs
41	HD223094	23 41 23	+28 08 54	17 38 48		00 12 30W			970
42	Comp							FeAr Clear	90s
CG30266 69	HD223094							4x	67s6
GG30270 71	"					00 15W	+28 41	2x	133ms
CC18743	Comp							FeAr Clear	90s
44	BD+26 3835	20 09.6	+26 27	18 07 18		04 45W			2831
45	Comp							FeAr Clear	90s
46	BIAS(4)								
47	Comp							FeAr Clear	90s
48	HD21686	03 24 56	+10 59 37	19 09 01		02 04 E			775
49	Comp							FeAr Clear	90s
50 – 52	FLATS x 3					02E	+11°		

Spectr. Temp. ...
Focus ... 7...
Spectr. Temp. ...

Exp Mtr.	Se
3100	6
	p
1565	6
6 508	6

Spectr. Temp. ..... Dome Temp./Hum. −16.0C 44.4% Transparency Conditions ... Fine ... 1.44

Focus ... 7.00 .....

Spectr. Temp. ..... Dome Temp./Hum. ..... 90C GAIN CCDT → −100C

Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
				CASS CCD	1800l/mm G=6065	300μ FULL Length	6604B	3/4ci	FOCUS	Rapid Temp drop now 13C/hr earlier	
								1ci			
								5ci			
3100	6"	7.45	K5III					6ci	Std Vel	+ Tel Normalize to Stor	
								7ci			
	poor	7.45	K5III		(ABOVE 300μ slit)				Seeing Test	Both Fans on By 1640 Gusty West wind South FAN OFF @ 1730 Dome Facing SW	
									"		
								8			
1565	6"-8"	8.4 - 9.1	B8					9	Bln pgm	Air mass = 1.65	
								10ci			
								1ci			
								11			
2,608	6"	5.14	A0V n					17	Telluric Std	(Bln chrtsphere)	
								13ci			
								2ci			

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Date 1993 Dec 26/27 Observers J. Taylor / I.T.

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC18753	Comp							Fe Ar Clear	90s
754	HD15963	02 28 54	+57 38 00	00 40 29		00 38 E			797
755	Comp							Fe Ar Clear	90s
756	HD15963			19 59 58					2485
757	Comp							Fe Ar Clear	90s
758 762	FLATS x5							Tung Ap 1/2	4sec
763	~~Comp~~ BIAS (4)								
764 765	Comp / Stellar Hartmann							Fe Ar Clear	60/70
766	Comp							Fe Ar Clear	60sec
767	HD15963	02 28 54	+57 38 00	21 12 51		01 13 W			1904
768	Comp							Fe Ar Clear	60sec
769	BIAS (4)								
770	Comp							Fe Ar Clear	60s
771	HD10516	01 37 24	+50 11 00	21 55 35		02 51 W			249
772	Comp							Fe Ar Clear	60s

Spectr. Temp. ..... Dome Temp./Hum. -18.0°C 52.8%H Transparency Conditions ..Sl hazy.....1.46

Focus ...7.00.....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Pic. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800 G-6065	300μ Full	6604	14c;			
1275	5"	8.1	Ape					15	Shell JT	MAX = 1200 ADU ~ Hd 1.037 AirMass	
~~1275~~								16c;			
4000	4.7"	8.1	Ape					17c;	Shell JT		
								18c;			
								19c;			
-18.0°C	Set 7.17			CASS CCD	1800 G-4820		~~4865~~ 3/4				
								5c;			
2750	5"	8.1	Ape					~~6c;~~	Shell JT	max = 1200 ADU	
								~~20c;~~			
								1c;			
								20c;			
8500	4"	4.06	Bl pe					21c;	Shell JT	MAX = 5K ADU (3501 S/N)	
								22c;			

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Date 1993 Dec 26/27 Observers J.T. / T.T.

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Spectr. Temp. / Focus / Spectr. Temp. Exp Mtr	See
CC18773	Comp							FeAr Clear	60s		
74	HD20336	03 11 12	+65 17 00	22 10 23		01 03 W			439	18,600	6
75	Comp							FeAr Clear	60s		
76	Comp							"	"		
77	HD22192	03 29 24	+47 51 00	22 27 02		01 00 W			27	29,000	
78	Comp							FeAr Clear	60s		
79	Comp							"	"		
80	HD23862	03 43 29	+23 51 00	22 45 24		01 13 W			693	5,350	4
81	Comp							FeAr Clear	60s		
82 →84	FLATS x3							TUNG Clear	9s		
85	BIAS(4)										
86	Comp							FeAr Clear	60s		
87	HD35439	05 19 36	+01 45	23 09 15		W			773	11K	
88	Comp							FeAr Clear	60s		
89	Comp							"	"		

Spectr. Temp. ..... Dome Temp./Hum. -19.8°C 60% Transparency Conditions 5/ hazy ... some cloud

Focus 7.1.7

Spectr. Temp. ..... Dome Temp./Hum. -20.2°C 64.4% 145

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Avg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
	60s					CASS CCD	G4820	300μ Full	4865Å	23			
	479	18,600	6"	4.83	~~B5e~~ B2Ve					24	Shell/JT	7.5K ADU max	
	60s												
	4									25c.	~~Shell/JT~~		
	27	20,000		4.23	B5e					26c.	Shell/JT	MAX 10K ADU	
	60s									27			
	4									28			
	693	7,250	4-8"	5.08	B8p					29	Shell/JT	350/1 S/N	
	60s									30.			
	73									2c.		MAX K ADU	
										1c.			
	60									30c.			
	713	19K		4.94	B1Vpe					31c.	Shell/JT	7500 MAX	
	60s									32c.			
	4									33c.			

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Date 1993 Dec 26/27 Observers J.T. / T.T

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc18790	HD 37202	05 31 42	+21 05	23 28 59				15 sec	~~773~~
91	Comp							Fe Ar Clear	60s
92	Comp							" "	
93	HD 248411	05 45 30	+28 14	23 44 06		00 29 W			1501
94	Comp							Fe Ar Clear	60s
95	HD 248411	05 45 30	+28 14	00 18 11		01 07 W			
96	Comp							Fe Ar Clear	60s
97	BIAS(4)								
98	Comp							Fe Ar Clear	60s
99	HD 45910	06 25 12	+05 56	01 00 45		01 08 W			1927
cc18800	Comp							Fe Ar Clear	60
01	Comp							" "	
02	HD 50138	06 46 42	−06 51	01 40 43		01 27 W			1933
03	Comp							Fe Ar Clear	60s
04	Comp							" "	

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions ... sl hazy ... 1.50

Focus ... 7.17 .....

Spectr. Temp. ..... Dome Temp./Hum. -21.0°C 67.8% incr cloud.

Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
22,400		3.95	B2IVp	CASS CCD	1800 G=4820	300u	486 SA	33			S/N
"		2.98	B2IVp					32	Shell JR		
								32			
* unknown	4"-8"	8.8	Ape					34c	Shell JR	* 6 exposures 2400 Exp meter problem	75/1
								5c;			
1600	5"	8.8	Ape					35c;	Shell JR	~20° from full moon	
								5c;			
								1c;			
		~~6.77 B2IVpe~~						5c;			
9300	5"	6.77	B2IVpe					6c;	Shell JR	some cloud	
								7c;			
								8c;			
9540	5"	6.6	B5Ve					9c;	Shell JR		
								10			
								11			

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Date 1993 Dec 26/27 Observers J.T. / J.T.

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC18805	HD 44351	06 16 18	+14 21	02 21 27		02 37 W			1940
06	Comp							Fe Ar Clear	60s
07	BIAS (4)								
08	Comp							Fe Ar Clear	60s
09	HD 54858	07 05 24	-09 11 00	03 02 54					961
10	Comp								60
→ 11 15	FLATS x 5					02 18 W	-9 19	TUNG Clear	9
16	BIAS (4)								

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions ..Sl. hazy, thin cloud...

Focus ....7.17.....

Spectr. Temp. ..... Dome Temp./Hum. -20.0°C ...66% Solid Cloud a Tent 157

Exp. Mtr.	Seeing	Avg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2850	5"	8.5	B3pe	CASS CCD	1800 G=4820	300μ	4865Å	12C;	Shell JT	no emm evident	
								1C;			
								14			
745		8.4	A0e					15	Shell JT	Sl fainter one TO South one of pair	
								18			
								1C			
							Hll	To Perseus &		WORK	

pg #1 153

Date 1993 DEC 27/28 Observers [illegible] HW/TM

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC 18817 18	Comp/ Stellar	HARTMAN				01 W	+43°	FeNe Clear	20/30
19	BIHS(4)								
20	Comp							FeNe Clear	30s
21	HD209790	22 0054	+6408	17 ~~4409~~		01 49W			65
22	Comp							FeNe Clear	30s
23	Comp							"	4
24	HD217675	22 57 18	+41:47	17 5 16		1:00W			33s
25	Comp							"	30s
26	HD217675	22 57 18	+41 47	17 57 54					43
27	Comp							FeNe Clear	30
28	Comp							"	"
29	HD 217782	22 5800	+42 13	18 0459		01 13W			165
30	Comp							FeNe Clear	30
31	Comp							"	"
32	HD 6981	01 05	+54 37	18 1429		0:46E			82s
33	Comp							FeNe	30s

Spectr. Temp. ..... Dome Temp./Hum. -10.5°C ..... Transparency Conditions ... Fine 154

Focus ... 7.38 .....

Spectr. Temp. ..... Dome Temp./Hum. ..... 90 GAin CCD → -100°C

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
T = -11.0°	Set	7.38		GASSCCD	600m/mm G-2620	2.5" pointer Decker	4200Å	3/4	Focus Test	Stellar vs/ Rad 385	
								5			
5000	1-2"	4.63	A3m					6	KK	1111Ax 10K ADU	
								7			
			B=3.6					8			
5200	1"	[illegible]	B6p					9	KK		
								10			
6150	1"	B36	B6p					9c	KK pgm Repeat	9.3K mAx	
								10c			
								11			
6500	1"	5.17	A2					12	KK pgm		
								13			
								14			
5952	1"	4.50	A7V					15			
								16			

pg #2 155

Date 1993 Dec 27/28 Observers [illegible] Tn. I.H.Hw

Emulsion Batches: .....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC18834	BIAS(4)								
35	Comp							Fe Ne Clear	30s
36	HD8890B	01 22 16	+88 46	18 26 33					185s
37	Comp							Fe Ne Clear	30s Int
CG30272 73	HD8890B : Polaris off to lower Right							2 x	67ms
38	HD8890 'A'	01 22 36	88 46	19:04		1:20 E			26
39	Comp								
40 →44	FLATS x5					0115E	+88		
45	BIAS(4)								
CG30274 - 77	HD10006	01 32 16	+45 50	0 19 22		0005E	+46	4x	67ms
78 79	"							2x	133ms
46	Comp							Fe Ne Clear	30s
47	HD222368	1993.5 23 39 37	1993.5 +53 52 8	19 31 36		2:00W	+6		22
48	Comp							Fe Ne Clear	30s
49	Comp							"	"

Spectr. Temp. ..... Dome Temp./Hum. -11.3C 68.4% Transparency Conditions ... Fine 156

Focus ... 7.38

Full moon almost

Spectr. Temp. ..... Dome Temp./Hum. .....

No FAINS Tonight

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
				Cass CCD	600 l/mm 250u G=2620		4200Å	1c;			
								17			
2155	1-2"	8.6	F					18c.	** pgm		
								19			
	1"	8.6	F	~150 S.N.R.		250u pointers		[illegible]	Polaris off windowed slit		
6100		2	F					[illegible]c;			
								21			
								22		MAX 13K ADU	
								1c;		Dome T = -11.8C	
	1"	7.5	K5		above 250u slit pointer Left in					Dome west Light s w wind	
8500		4.13	F7V					24	Std Ved		
								25			
								26			

pg #3 157

Date 1993 Dec 27/28 Observers [KK] +Bln Hlw ITn

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Spectr. Temp / Focus / Spectr. Temp Exp. Mtr	Sc
CC18850	HD29587	04 34 30	+41 57	19 48 18		2:24E			1203	5900	
51	Comp										
52/53	Comp/Stellar	HARTMAN				00 40E	+26°	FeNe Clear	40/66	T=-12	
54	BIAS(4)										
55	Comp	Reset	CSS TIME	to match	WWV Time			FeNe Clear	30s		
56	HD37479	05 33 45	-02 38 48	20 36 40		1:50E			1800s	1420	
57	Comp							FeNe Clear	30		
58	HD37479	05 33 45	-02 38 48	21 09 15		2:23E			1812s	5211	
59	Comp							"	30s		
60	Bias(4)										
61	HD37479	05 33 45	-02 38 48	21:42:25		1 18E			1769	1:00	
62	Comp							FeNe Clear	30s		
63	HD37479	05 33 45	-02 38 48	22 15 18		00 51E				K	
64	Comp							FeNe Clear	30s		
65	HD37479			22 41 11		00 24E			1426	:30	
66	Comp							FeNe Clear	30s		

Spectr. Temp. ..... Dome Temp./Hum. ~12.0°C 70.7% Transparency Conditions Sl hazy 158

Focus 7.38 / 7.20 for 1800 l/m grating

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Pr. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
5900	1"	7.29	d62	CASS CCD	600 l/mm G 2620	250u dekker	4200Å	27	Std vel	7400 MAX ADU	
								28c;			
T=-12.2°C Set= 7.20					1800 l/mm G=4065	250u dekker	3730Å	3/4c;	Focus	2.3 pixel Red Row # 365	
								1c;			
								5c;		Catwalk Humidity 83% @2115	
9420	3"	6.53	B2V pe		~115 S.N.R.			6c;	Bln He St	"	
								7c;			
5211		6.53	B2V pe		~95 S.N.R.			~~8c;~~	Bln He S.	Some clouds passing by	
								9c;			
								~~10c;~~ 1			
11,500	3"-5"	6.53	B2V pe					~~8c;~~	Bln He St.	edit star fix	
								11c;			
10K	2"-3"							12c;		13K photons : 1 > 100/1 S/N Cloud at end	
								13c;			
6400								15		Cloud again	

1994#4 | 59

Date 1993 Dec 27/28 Observers [Blo] Tn / Hlw

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Spectr. Temp
CC18867-9	FLATs x 3							JUNC Clear	20s		
70											
CC18871	Comp / Stellar	HURTMAN (after Topp)				00 15E	+28°	FeNe Clear	40/66		
72	Comp							FeNe Clear	30s		
73	HD 37479	05 33 45	-02 38 48	00 19 44		01 16 W			150s	12K	
74	Comp							FeNe Clear	30s		
75	BIAS (4)										
76	HD37479			00 47 35		1:52 W			1984s	13K	
77	Comp										
78	HD37479	05 33 45	-02 38 48	01 23 16		2 20 W			1558	9K	
79	Comp							FeNe Clear	30s		
80	HD37479	05 33 45	-02 38 48	01 52 02		2 50 W			1530	8600	
81	Comp							FeNe Clear	30s		
82	Bias (4)										
83	HD37479	05 33 45	-2 39	02 23 16					1260	5510	
84	Comp							FeNe Clear	30s		

Spectr. Temp. ..... Dome Temp./Hum. ~12.2°C ..... 75% H Transparency Conditions ..... cloudy ..... mostly 1.0

Focus ..... 7.20 .....

Spectr. Temp. ..... Dome Temp./Hum. ..... Open Dome again @ 00.15

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
				CASS CCD	1800 l/m G=4065	250 dekor in	3730Å	14c;			
								16/17	Focus Test	Row # @ 335, stellar 2 pixel Rad	
								20			
12K	2"	B 6.32	B2Vpe	(HeS)				21c.	Bln He Str	ppm	
								22			
								1c;			
13K		B= 6.32	B2Vpe					23	Bln He Str		
								24			
9.9K	3"	B= 6.32	B2Vpe					25	Bln He Str	Extra detail Blue of Balmer & very prominent 8990. Relative Humidity on catwalk.	
								26			
8000	3-4"	B= 6.32	B2Vpe					27	Bln He Str		
								28			
								1			
5570	3-5"	B= 6.32	B2Vpe					29	Bln He Str.		
								30			

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Date 1993 Dec 27/28 Observers [Bly] ... Tn / Hlw ... {Vys}

Emulsion Batches: .....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc18885	HD37479	05 33 45	-02 38 48	02 44 09		3:31 W			1300s
86	Comp							FeNe Clear	30sec
87	Bias (4)								
88	Flat							Tung Clear	200s
89/90	Comp/Stellar	Hartman				Zenith			
91	Bias (4)								
92	Comp							FeNe Clear	60s
93	B2-2 3000	09 48 10	-03 13 04	03 35 09		0:50 W			3691
94	Comp							FeNe Clear	60s
95	Comp							"	"
96	HD95735	10 57 54	+36 38	04 47 01		-0:05 E			729s
97	Comp							FeNe Clear	60s
98	Bias (4)								
99	Comp							FeNe Clear	60s
cc18900	BD-1 2892	13 55 53	-02 10 09	05 12 44		1 48 E			
01	Comp							FeNe Clear	60s

Spectr. Temp.
Focus ... 7..
Spectr. Temp.

Exp Mtr.	Se
5000	
1346	
5400	
1500	

Spectr. Temp. ...../..... Dome Temp./Hum. ~12.9°C 75.4% Transparency Conditions ...S/ hazy.....162.

Focus ...7.20/7.10..

Spectr. Temp. .../..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
5000	4"				1800 G=4065	250µ	3730Å	3k	He Str Blk	To platform Limit	
								32			
								1			
								33			
				CassCCD	1800 d/mm G=5115	300µ no dekker	5303Å	3/4	Focus Test.	T=-13.0, foc=7.10	
								1			
								5			
1346	1-2"	V= 10.54	m		~90 S.N.R.			6	Vys Pgm	~~Contact object~~ North ~4 arcmin ~~from~~ SI brighter star	RV~0 km/s (±20)
								7			
								8			
5400	1-2"	7.48	M2					9	Vys Std vel		
								10			
								1			
								12c			
1500	1-2"	9.73	K5		~100 SNR			14c	Vys Pgm		
								18			

pg#6 163

Date 1993 Dec 27/28 Observers H/W/Tu

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc18902	Comp							FeNe Clear	50s
903	HD119850	13 40 36	+15 27 00	0616 22					1853s
904	Comp							FeNe Clear	50s
905 908	FLATS x 4							TUNG Hp 1/2	9 sec
909	BIAS(4)								

Spectr. Temp.
Focus 7:
Spectr. Temp.

Exp Mtr	Sec
3940	2

Spectr. Temp. ..... Dome Temp./Hum. -13.9 / 76.7% Transparency Conditions Clear 16.4...

Focus ... 7:10 .....

Spectr. Temp. ..... Dome Temp./Hum. -14.1°C 78% OLD JAIL FARM?

Big FIRE SSE of HERE Reported

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800 G=5115	300μ	5303Å	19			
3940	2"	8.48	M1					20	Vys Std		
								22c;			
								24c;		MAX 14K ADU	
								1c;			
				All To Persens (93 files OK) - To WORM all 93 files							

pg 1 165

Date 1993 Dec 28/29 Observers [Bln] Hlw

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc18910/1	* Comp/Stellar	Hartman						FeAr Clear	30/30
12	Bias (4)								
13	Comp							FeAr Clear	60s
14	HD25642	03 59 08	50 04 48	22 08 46		0:19 W	+50:19		193s
15	Comp							FeAr Clear	60s
16	Comp							"	"
17	HD21686	03 24 56	10 59 37	22 18 56		1:10 W			470s
18	Comp							"	
19–24	Flats × 6					"			
25	Bias (4)								
cg30280-3	4× HD29587	04 34 30	+41 57 00	22 44					.067
cg30284,5	2× HD29587	"	"	22 46					.133
cc18926/27	Comp/Stellar	Hartman						FeNe Clear	20/33
28	Bias (4)								
29	Comp							FeAr Clear	30

Spectr. Temp. ...../..... Dome Temp./Hum. -11.8/62.2% Transparency Conditions ... Scattered Clouds. KS

Focus ... 6.97/7.18 for Blue 480 0 50 1024 4 1 ccdfmt

Spectr. Temp. cgain = 90 Dome Temp./Hum. ... Both Fans ON until 2200, then S turned off.

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
FeAr	30					Cass CCD	1800ℓ/mm G=6065	300μ	6604Å	3/4	Focus Test	T = -11.9	
										1			
										5			
	60												
	113	13,000		V= 4.29	A0 II					6	Bln		
FeAr	60									5			
										5			
	47	13,000		V= 5.14	A0 V					7	Telluric		
										5			
										8			
										1			
	.05							300μ			Seeing Test	Light W wind, Dome West	
	.03										"	North Fan ON	
FeNe	20					Cass CCD	1800ℓ/mm G=4065	250μ	3730Å	3/4	Focus Test	foc = 7.18, T = -12.3°C	
	3									1			
FeAr	30									5		Accidentally used FeAr instead of FeNe. Weak Comp	
FeAr													

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Date 1993 Dec 28/29 Observers [Bln] Hlw

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc18930	HD37479	05 33 45	-02 38 48	23 18 53		0:17 W			1285
31	Comp							FeNe Clear	30s
32	HD37479	05 33 45	-02 38 48	23 43 11		0:48 W			1825
33	Comp							"	30
34	Bias (4)								
35	HD37479	05 33 45	-02 38 48	00 17 19		1:20 W			1805s
36	Comp							"	30
37	HD37479	05 33 45	-02 38 48	00 50 51		1:56 W			1800
38	Comp								
39	Bias (4)								
40-42	3×Flats							Tung Clear	200s

Spectr. Temp. ..... Dome Temp./Hum. -13.4°C/62.8 Transparency Conditions ... clear, some clouds...

Focus ... 7.18 ...

Spectr. Temp. ..... Dome Temp./Hum. .....

166

Exp. Mtr.	Seeing	~~Ptg.~~ Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
5000		6.53	B2 IIIa	Cass CCD	1800 ℓ/mm G=4065	250μ	3730 Å	6	Bln He Str		
								7			
11900		6.53	B2 IIIa					8	Bln He Str		
								9			
								1			
10500		6.53	B2 IIIa					10	Bln He Str		
								11			
3900		6.53	B2 IIIa					12	Bln He Str	Totally clouded in at end	
								13			
								1			
								14			
				All to Perseus & W.O.R.M.							

pg # 169

Date 1994 JAN 2/3 Observers H.L. / Tn

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC 18943 44	Comp / Stellar	HARTMANN			~2315	00 08E	+43 43	FeNe Clear	20/40
45	Bias (4)								
46	Comp							FeNe Clear	35s ~~45s~~
47	HD36395	05 26 18	-03 41 00	23:43:26		1:16 W			1800s
48	Comp							FeNe Clear	35s
49-51	3× Flats	Vys 497 position				~0:30 E	+63°	Tung ½ ap	9s
52	Comp							FeNe Clear	35s
53	Bias (4)								
54	Vys 497	07 25 17	+63 09 16	00:28:06		0:09 W			2492
55	Comp							FeNe Clear	35
56	Vys 497	07 25 17	+63 09 16	01:12:04		0:19 W			423
57	Comp							FeNe Clear	
58-63	6× Flats	almost at platform. (facing S)				0:00 W	-24°5	Tung ½ Ap	9
64	Bias (4)								

Spectr. Temp. -100.0°C Dome Temp./Hum. -12.0°C 57.8% Transparency Conditions . Clearing 170

Focus 7.05 Dome Fans ON South one turned off @ 0030

Spectr. Temp. cgain=90 Dome Temp./Hum. λ 480 0 50 1024 4 1 ccdfmt

Exp. Mtr.	Seeing	~~Ptg.~~ √Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
				CHSS CCD	1800 l/mm G=5115	300u Full Length	5303Å	3ci/4cs		foc = 7.05 T = -12.8°C	
								1			
								5c		@ Red end one vstr line @ 4K ADU	
2365	8"	7.97	M1		~120	S.N.R.		6	Vys Std.	central column ~~~~ -24 ✓	
								7			
								8			
								9		catwalk hum = 72% @ 0040	
								1			
229	shitty	10.48	m					10	Vys Pgm		
								11			
40		10.48	m					12	Vys Pgm	Completely clouded in.	
								13			
								14			
					All to PORM			and	Wersews.		

pg#1 V471 Tues/Wed

Date 1994 JAN 4/5 Observers MKI/LTa

Emulsion Batches:

CSS Time set to UW V Time ... At start of night

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC18965 66	Comp / stellar	Hubinan						FeAr Clear	60/70
~~67~~	~~BIAS(4)~~		Lost						
~~68~~	~~Comp FLAT~~						TUNG Ap 1/4	~~FeAr Clear~~	~~406 sec~~
69	Comp				(Time of Last Start)			FeAr Clear	40s
CC18970 - 19029	V471 TAU	03 44 43	+16 57 06	18 15 57	19 14 25	01 54 E			52s
CC19030	FLAT								
31	BIAS(4)								
32	Comp							FeAr Clear	40s
CC19033 - 92	V471 TAU	03 44 43	+16 57 06	19 26 21	20 24 48 (Last START)	00 44 E			52sec
93	BIAS(4)								
94	Comp							FeAr Clear	40s
95	FLAT							TUNG Ap 1/4	6 sec
CC19096 CC19156	V471 TAU			20 34 01	21 32 33				
156	BIAS(4)			57 dk					
157	FLAT							TUNG Ap 1/4	6 sec
158	Comp						FeAr	Clear	40s

Spectr. Temp. ..... Dome Temp./Hum. -8.6°C 59.0% Transparency Conditions ..... mostly clear 172

Focus ... 6-98 .....

Spectr. Temp. ..... Dome Temp./Hum. ..... 550 0 7 1024 8 1 CCDFMT

90 C64in CCDT -> -100C

HR226 encoder NORM STAR

Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
				CASS CCD	1800 l/mm G=6035	300μ Full Length	6563Å	3/4	Focus	3-4 secs 30c · 3/5 rejected (s/ Rel)	
								1ci		STHR52S1 BAT used	
								~~3~~ci		↓ ≈ 11k ADU max	
								5ci			
~~2~~ 25 each (1380 sum)	4"	9.4 -9.7	KOV +wcl		60 frames			6ci	11Ki pgm	1.415 AIR MASSES STHR52S1 EXP ×60	
								2ci		Thin cloud at end most images on col #3	
								1ci			
								7ci			
TOTAL 1130	3"-4"	9.4 -9.7	KOV +wcl		60 frames			8ci	11Ki pgm	guided FOR cols 3 & 4 by eye	
								1ci	1.135	increasing haze/cloud AIRMASS	
								9ci			
								10ci		12.5k ADU max	
944	4"				60 frames			11ci	11Ki pgm	4 = 5th cols.	
								1			
								12ci			
								13ci			

pg#2 173

Date 1994 JAN 4/5 Observers MKi LTm

Emulsion Batches:
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Plate No.	Object (CC19159-19190)	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC 19189 19190	V471 Tau	03 44 43	+16 56 06	21 40 27	~22 12 effectively				52s
CC19191	Comp [ORIGINAL LOST]	I duplicated Hr Ls Dec and Did much better.		ie ~22 54 EST				Feat Clear	45s
192	Comp								50s
193	BIAS(4)								
194	4D87901	10 03 03	+12 27	22 32 18				1.	225
195	Comp			22 37 52				Feat Clear	30s
196	~~FLAT~~ BIAS					04 45E	+12°	TWILIG Ap 1/4	8sec
197	FLAT						Ap 1/4	TWILIG	8sec
198 199	Comp/Stellar	HARTMAN				01 11W	+30°	Feat Clear	60/70

Spectr. Temp. ..... Dome Temp./Hum. -10.0°C 67668 Transparency Conditions ..INCR cloud 1.74.

Focus ....6.98.....

Spectr. Temp. ..... Dome Temp./Hum. -10.3..... Thick cloud at star by 2210

Exp. Mtr.	Seeing	Pic. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
	4"	9.4 -9.7	KOL +wd	CASS CCD	1800 l/mm	300μ	6563Å	14c.	Multi pgm	x40 ~~cumulated~~ clouds coming 19190	
	Should be 14c; cc19192 (overwrite 19191 with bias)							Foc;	Prob cc ~~Pgm 9~~ Last good one.		
Manual	cc19198		edit obj					14c;			
2700	6"	1.36	B7K					15c;	Telluric Std	Cloud 2.92 AIRMASS	
								16c;			
								~~17c~~;		MAX 13 K ADU.	
								17c;			
								3/4c;	Focus Test		
				All TO WORM = PERSEUS.							

Pg #1 175

Date 1994 JAN 5/6 Observers [Blk] Tn

Emulsion Batches:
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.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC19200	BIAS(4)								
201 – 202	Comp / Stellar	Hartmann				00 10W	+40	FeAr Clear	60/60
203	Comp							FeAr Clear	60s
204	HD3765	1994.5 00 40 31	+40 09 29	17 57 06					7A1
205	Comp	[00 35 18	+39 40 1900 epoch]						
CG300286 – 289	HD3765	"	"					4x	67 sec
290 – 91	HD3765	"	"	4/18 15		2 00 20W		2x	133 secs
CC19206	Comp							FeAr Clear	60s
207	HD235679	21 55 00	+54 01	18 26 54		03 50W			2791
208	HOE actually Comp							FeAr Clear	60s
209	BIAS(4)								
→ 210 – 212	FLATS x3					03 55W	+54°	TUNG Ap 1/2	4sec
213	Comp							FeAr Clear	60sec
214	HD21699	03 25 04	+47 40 57	19 20 11		01 25E			204
215	comp							FeAr Clear	60sec

Spectr. Temp. 6
Focus 6
Spectr. Temp.

Exp Mtr	Se
4100	5

Spectr. Temp. ..... Dome Temp./Hum. -12.0C 46.8%H Transparency Conditions Fino F.G.

Focus 6.98

Spectr. Temp. ..... Dome Temp./Hum. .....

CCDT → -100°C CGAIN - 90

Exp. Mtr.	Seeing	P.V. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CHSS CCD	1800 G=6065	300μ FULL Length	6604Å	1c;			
								3/4	Focus Test	Row #300, Section 2 Red OK	
								5c;			
2065	6"	7.36	dK5					6c:	Stellel	(22-27 cols)	
								7c;			
		7.36	dK5			ABOVE 300μ slit			Seeing Test	Dome West; NoFANS	
									" "	medium NW wind.	
								8c;			
1700	5"	B 9.21 V 8.86	B2.5 Ib	B-V=+0.35				9c;	Blu Hα pgm	(Sp Bin Blu) Str Hα emission?	
								10c;			
								1c;			
								11c;		11 K ADU max	
								12			
4100	5"	5.48	B5 Ib sh	(HαW)				13	Hewk pgm	6039 Hio mass	
								14c;			

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Date 1994 JAN 5/6 Observers [Bln] T.n

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr	Sec
Cc 19316	HD21699	032504	+474057	192717		01 11E			574	1/300	5
17	Comp							FeAr Clear	60s		
18	Comp							"	"		
19	HD14055	021122	+332305	194409		00 13W			148	1/900	5
20	Comp							FeAr Clear	60s		
21	Comp							"	"		
22	HD25642	035908	+500448	195501		01 23E			268	1/400	4
23	Comp							FeAr Clear	60s		
24	BIHS(4)										
25	Comp							FeAr Clear	60s		
26	HD19832	030617	+265248	200822		00 04E			938	1/300	3
27	Comp							FeAr Clear	60s		
28	BIHS(4)										
29	Comp							FeAr Clear	60s		
30	HD35502	052000	-025422	203635					2429	1/600	4
31	Comp							FeAr Clear	60s		

Spectr. Temp.
Focus 6.9
Spectr. Temp.

Spectr. Temp. ..... Dome Temp./Hum. -14.5°C 49.3% Transparency Conditions ... Sl. hazy early ... 1.76

Focus ... 6.98

Spectr. Temp. ..... Dome Temp./Hum. -15.7°C 52.8% Increasing cloud

Exp. Mtr.	Seeing	Proj. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
11,300	5"	5.98	B5 V sn	CASS CCD	G-6065	300	6604A	13c	He wk	max 4,700 ADU	
								15c;	→	60K photons = Σ Avg obsc background → ≈ 250/1 S/N	
								16c;			
10000	5"	4.01	A1 V nn					17c;	Telluric Std	Air mass 1.015	
								~~18c~~			
								18			
12000	4"	4.29	A0 IV n					19	Hx pgm (shell)	~~Lousy seeing~~	
								20c.			
								1c;			
								21			
2,700	3-4"	5.79	B8 (SI) (Si)					22	He wk (Sky)	(Start sp in 00-24 Col Range) 1.046 Air mass 6.6K ADU max	
								23			
								1c;			
								24			
6000	4⅞"	7.36	B5 IV sn (He w)					25c.	He wk (Sky)	Cirrus too Air mass = 1.633	S/N 200/1
								26			

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Date 1994 JAN 5/6 Observers [Blk] T.H.

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc19232	Comp							FeAr Clear	60s
33	HD6457	01 00 20	+20 55 48	21 24 54		03 21 W			1028
34	Comp							FeAr Clear	60s
35	Comp							"	"
36	HD 36485	05 26 54	-00 21 30	21 49 07		00 27 E			1846
37	Comp							FeAr Clear	60s
38	BIAS(4)								
39	Comp							FeAr Clear	60s
40	HD37479	05 33 45	-02 38 48	22 27 24					
41	Comp							FeAr Clear	60s
42	HD37468	05 33 44	-02 39 28	22 51 23		00 08 W			639
43	Comp							FeAr Clear	60s
44 → 49	FLATS x 6			~23 05		00	-2 35	TUNG Ap 1/2	4sec
50 → 51	Comp / Stellar Hartman					00 00	+33°	FeAr Clear	60/60
52 54	FLATS x 3					"	"		4sec
55	BIAS(4)								

Spectr. Temp. ..... Dome Temp./Hum. -16.3°C ..... 55%/4 Transparency Conditions incr cloud 180

Focus ... 6.98 .....

Spectr. Temp. ..... Dome Temp./Hum. -17.3°C .....

Exp. Mtr.	Seeing	Pol. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
				CASS CCD	1800l/mm G=6065	300μ	6604Å	27		Thin cloud Here	
13 000		5.56	AOV$_m$					~~28~~	Telluric Std South Following a pair		
								29	1.40 AIR MASS		
		~~6.85~~	~~B2V$_{SH}$ (He S)~~					30			
7000	5"	6.85	B2V$_m$ (He SH)					31	He Str (Blu)	1.425 AIR MASS	S/N >200/1
								~~32~~			
								1.			
								~~33~~			
14500	5"	6.53	B2Vpe					33	He Str Blu	α ori E Cloud started	
								32			
11 000	6-10"	3.81	095V					34	Blu pgm	α ori AB	
								35		σ ori D also on slit 4 to Right of AB on screen ie To the East	
								36c1		133K 404 max	
	T = -17.3°C, Set Sh1 @ 6.98							3/4	Focus Test	Row #300 (Stellar ~2 pixels Blue	
	More Flats for good luck							2c1		~.9 pixel diff than when set -12°C.	

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Emulsion Batches: .....

Date 1994 Jan 9/10 Observers HIW / [Hdy as backup] .....

CS386 clock 6 seconds fast

Spectr. Temp. .....
Focus .....
Spectr. Temp. .....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T. + 6 seconds	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr.	Sec
cc19256/7	Comp/Stellar	Hartman						FeNe Clear	20/35		
58	Bias(4)										
59	Comp							FeNe Clear	35s		
60	HD216899	22 51 48	+16 02 00	18:20:10		~2:30 W			1209	1099	5
61	Comp							"	35		
62	Bias (4)										
63-65	3×Flats							Tung ½ Ap	9s		
66	Comp							FeNe Clear	35		
67	Vys 419 AB	03 18 13	+23 25 51	19:12:42		0:40 E			1892	287	
68	Comp							"	35		
69 dude	Comp							"	"		
70	Vys 428 A	03 38 12	+16 21 30	19:50:17		0:23 E			1800s	487	
71	Comp							"	35		
72	Bias (4)										
73	Comp							"	35		

Spectr. Temp. -100°C Dome Temp./Hum. -14.2°C/66.0% Transparency Conditions .. Clear 1.82

Focus ..... 7.05 Dome Fans off.

Spectr. Temp. ... Cgain=90 Dome Temp./Hum. ..... 480 0 50 1024 4 1 ccdfmt

Exp. Mtr.	Seeing	~~Ptg.~~ Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800 G=5115	300 μ	5303Å	3/4	Focus Test	very light N wind	
								1			
								5		Max ADU = 13969	
1099	5"	8.66	M2					6	Vys Std.	~80 S.N.R.	
								7			
								)			
								8			
								9			
287		10.47	m					10	Vys Pgm	~41 S.N.R.	
								11			
								12			
487		9.96	m					13	Vys Pgm	~ 55 S.N.R	
								14			
								1			
								15			

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Date 1994 Jan 9/10 Observers Hlw / [Hdy] as backup

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr.	Spectr. Temp
cc19274	BD-09 956	04 35 43	-09 23 20	20:31:53		0:40E			1800s	442	Focus
75	Comp							FeNe Clear	35		Spectr. Temp
76	BD-09 956	04 35 43	-09 23 20	21:04:50		0:05E			1800s	446	
77	Comp							"	35		
78	Bias (4)										
79	Comp							"	"		
80	HD36395	05 26 18	-03 41 00	21:42:16		0:40E			600s	190	
81	Comp							FeNe Clear	35		
82	Comp							"	"		
83	Vys 467	05 36 15	+15 17 17	22:01:07		0:00	neither East nor West	....	2432s	379	
84	Comp							"	35		
85 **	Vys 467	05 36 15	+15 17 17	22:44:25		0:26W			1418s	239	
86	Comp							"	35s		
87	Bias (4)										
88-90	3 < flats							Tung ½ Ap	9s		

Spectr. Temp. ..... Dome Temp./Hum. ~15.8°C/69.9% Transparency Conditions Clear ..... 164.

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	~~Ptg.~~ Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
442	4"	10.30	m	Cass CCD	1800 l/mm G=5115	300μ	5303Å	16	Vys Pgm	~50 S.N.R.	
								17			
446		10.30	m					18	Vys Pgm	~50 S.N.R.	
								19			
								1			
								20			
1190		7.97	M1					21	Vys Std.	~87 S.N.R.	
								22			
								23			
379		10.61	m					24	Vys Pgm	~54 S.N.R.	
								25			
239		10.61	m					~~24~~ 24	Vys Pgm	~42 S.N.R.	
								26			
								1			
								27			

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Date 1994 Jan 9/10 Observers Hlw / [Hdy] safety backup.

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Se
cc19291	Comp							FeNe Clear	35s		
92	BD-08 2689	09 23 57	-08 49 46	00 22 59		1:30 E			1870	424	
93	Comp							FeNe Clear	35s		
94	Bias (4)										
95	Comp							"	"		
96	BD-02 3000	09 48 10	-03 13 04	01:11:32		1:10 E			1800s	434	
97	Comp							"	35		
98	BD-02 3000	09 48 10	-03 13 04	01:43:58		0:40 E			1844	465	
99	Comp										
cc19300	Bias (4)										
301	Comp							FeNe Clear	35		
302	HD95735	10 57 54	+36 38 00	02:23:10		1:40 E			612s	2300	
303	Comp							"	35		
304-306	3× Flats							Tung ~~Ent~~	9s		
307/8	Comp/Stellar	Hartman						FeNe Clear	20/35		

Spectr. Temp. ..... Dome Temp./Hum. -16.8°C/10.7% Transparency Conditions Clear ..... F6.

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. -17.2°C/68.5%

Exp. Mtr.	Seeing	Ptg. √Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800 ℓ/mm G=5115	300μ	5303Å	28			
424	3"	10.52	m					24	Vys Pgm	~45 S.N.R.	
								25			
								1			
								28			
434	5"	10.54	m					29	Vys Pgm	~45 S.N.R. Seeing is getting worse.	
								30			
465		10.54	m					31	Vys Pgm	~45 SNR	
								32			
								1			
								5			
2300		7.48	M2					6	Vys Std.		
								7			
								8			
					All to Percey & Wood			3/4	Focus Test		

167

Date 1994 Jan 10/11/12 Observers KK

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
FITO1037	comparison						diffuser out	FeNe —	180s
1038	Tungsten							Tung BG39	7200s
1039	comparison							FeNe BG39	600
1040	Hartmann – IN					NO MASK	diffuser Out	FeNe —	180s
1041	Hartmann – OUT							"	"
1042	dark			19:55					7200
1043	Tungsten								
1044	Hartmann – IN						diffuser OUT	FeNe —	180s
1045	Hartmann – OUT						"	"	"
1046	Hartmann – OUT						"	"	"
1047	Hartmann – IN		20 A steps				"	"	"
1048	Hartmann – IN						"	"	"
1049	Hartmann – OUT		30 'S' steps				"	"	"
1050	Hartmann – OUT						"	"	"
1051	Hartmann – IN						"	"	"
			30 A steps						

Spectr. Temp
Focus
Spectr. Temp
Exp. Mtr

Spectr. Temp. ..... Dome Temp./Hum. −12°C Transparency Conditions ..... 188 .....

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. ..... OUT − IN

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					831 / 45°.5	8μ					
30											
										Stack T = −32°C	
											+14
											+20
											−11 pin

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Date 1994 Jan 11/12 cont Observers KK / HIW

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
FIT01052	Hartmann - IN							FeNe	180
1053	Hartmann - OUT	10 '5' steps						"	"
1054	Hartmann - OUT							"	"
1055	Hartmann - IN								
1056	HD 19356	3:01:40	40:34	17 54 40	20 02 30		RG 60 filter		
1057	Comparison			20 05				FeNe	180s

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions ..passing..... hotes ..... 190..

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					831/45.5						
											+5pix
50-200									lost?	through clouds	NG

191 SAT/SUN

Date 1994 JAN 15/16 Observers [Blg] TG

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc 19309 310	Comp / stellar Hartman					0 0	+42°	FeNe Cuvy	40/66
311	BIAS(A)								

Spectr. Temp. ..... Dome Temp./Hum. -18°C ... 50% H Transparency Conditions ... Mostly clear ... 1.92 ....

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. ..... -23°C by 18:20 EST

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	-19°C	set	7.23	CASS CCD	1800 l/m G=4065	250μ Parker	3730Å	3/4c;	Focus		
										increasing cloudiness	
	Decimal too cold to continue						-24°C,	seeing horrendous,	Dec slow is v slow		

Wed/Thurs 193 pg #1

Emulsion Batches: .....

Date 1994 JAN. 19/20 Observers KK/TG ..... (1 min) .....

CSS 86 Time Behind ≈ ~~.....~~ (I did not correct it)

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
FIT 01059	FLAT (exit header = NOTHO Batch) ✓			17 55 55				TUNG Ap = 1/2	
FIT 01060	Comp							FeNe clear	180
TAG + FIT 01061	HD 19326	03 01 40	+00 34 00	18 23 ?		00 36 E			1800
1062	HD 19326	"	"	WWV Time 18 54 50	19 24 51	~~00 26 30 W~~			1800
1063	(exit header #5) ✓	"	"	19 25 16		00 26 30 W			1800
1064	HD 19326	"	"	19 57 00		00 59 W			1800
065	Comp			20 26 ?					~~1500~~ 1805
TAG + FIT 066	HD 35497	05 19 58	+28 31	20 44 ?	WWV 21 15 10	00 31 30 E			1800
" 067	"			WWV Time 21 27 13		00 06 W			1800
068	Comp							FeNe clear	180
TAG + FIT 069	HD 35497	05 19 58	+28 31	WWV 22 00 47		00 45 W			1800
070	Comp							FeNe clear	180
071	FLAT			22 40				TUNG Ap 1/2	1972
072	Comp							FeNe clear	180
TAG + FIT 073	HD 67509	07 39 12	+28 16	23 21 ?		E			1800

Spectr. Temp. ..... Dome Temp./Hum. -18.8°C 60%H Transparency Conditions ... Mostly Clear ... PM

Focus ..... 81 increase in Haze noted

Spectr. Temp. ..... Dome Temp./Hum. -21.5°C 66%H

Exp. Mtr. A / B	Seeing	Pwr. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1300/25				PCS Fiber Fed	831 41.2°	8μ ff	6563Å			using NoTAG	
220/8										4 photons/sec for strongest line using Comp 060	
150-400	VV poor	VAR 2.1	B8V						KH sparkle pgm	β Per Algol 1.02 A.M. at start	
	4								Algol		
~~100-450~~	"								"		
100-450 RANGE in A channel									"	1.1 neg for TAG	
230/5	VV poor	V									
100-400 cnts	poor	1.65	B7III						Std Star. (non double)	1.05 AIR MASS at START	
80-300 cnts	VV poor	"	"						"	some cloud	
240/7											
100-400 cnts		1.65	B7III						std star		
240/8											
500/20										no tag edited	
~~400-450~~ 400/1100	WORSE	1.14	K0III						stdvel		

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Date 1994 JAN. 19/20. Observers [K.K.] T.H.

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
TAG FIT01074	HD62509	07 39 12	+28 16	23 58 00 WWW		00 23 W			1800
CG300 292 295	"	done before	FIT01074					4 v 2 v	67 ms 133 ms
296 297	"	"	"	23 58 00 WW		00 08 E	+28°		
FIT01075	Comp							FeNo Clear	180s
76	FLAT ** Not backed up							TUNG Ap 1/2	7200

Spectr. Temp.
Focus
Spectr. Temp.

Exp Mtr Ap. | See

9a - 1200 v Pos again

VID

Much Iron f

Spectr. Temp. ..... Dome Temp./Hum. -21.7°C 66.3% Transparency Conditions .. PART. Cloudy ... 1.96
Focus ..... V W windy & cold.
Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr. Acb	Seeing	Pr. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400-1200	V poor again	1.14	KOIIIb	PCS speckle	831 4h2°	8u ff	6563		Std Vel for speckle pgm		
Note (VID OPI) [much Better Than for prev observations]			amplifier off for tests			4			seeing Test (note not on see test list) gust W SW winds, dome S W		
										using Tung. Bat	
				ALL TIFF TO worm G:\speckle							
				ALL FITS TO worm G:\FIT						except FIT 01076 **	

Pg#1 197 Thurs / Fri

Date 1994 JAN 20/21 Observers K.K. / I.T.

Emulsion Batches:

CSS Time Reset to WWV Time

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
FIT01077	FLAT [while opening]							TUNG Ap 1/2	168
078	Comp							FeNe Clear	180
TAG FIT01079	HD19326	03 01 40	+40 34 00	183430		00 21 E			1800
080	"	"	"	190505		00 09 W			1800
081	"	"	"	193728		00 42 W			1800
082	"	"	"	200743					
083	Comp							FeNe Clear	180
084	HD35497	05 19 58	+28 31	205118		00 22 E			1800
STAR 085	"			212535					1800
086	"			2212		01 01 W			1800
CG300298-301 302-304	"	Seeing test, image		2210		00 20 W		4x 2x	67ms 133ms
087	Comp							FeNe Clear	180
CG300305-307 308-310	HD42126/7	06 04 00	+18 44	22755		00 27 W		4x	
088	HD62509	07 39 12	+28 16	230830					180
089	"	"	"	2346		00 09 W			1436

Spectr. Temp. ..... Dome Temp./Hum. -14.5°C 70%H Transparency Conditions ... PART. clear 198
Focus .....
Spectr. Temp. ..... Dome Temp./Hum. -15.0°C 73.5%H

seeing test stuff
Both Runs on et StaRT. (NE Letton)
SW winds 20 km/hr

Exp. Mtr. CH 4	Seeing	Pig. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1500				PCS Speckle	831 l/mm 41.2° tilt	8μ ff	6563Å				
400-1200	4"	VAR 2.1	B8V						KK speckle (Beta Per)		
500-1300	3"-8"								"	Bad seeing at end	
300-850	4"-8"								"	* Better seeing at end → Rate 1200/sec	
400-1200	5" (steady seeing)								"		
300											
700-1600	4"	1.65	B7III						KK speckle Std. Beta Tau		
700-1700	VAR									TAG = 5 meg	
	OK Looking			Again, not a Seeing Test List obj		Above ff hole			Seeing test	20 km/hr SW wind	
A 300/ B δ											
		6.1r	AO			HBOVE ff hole			Seeing test	for Scaling field	
X 1500-2800	3"-6"	1.14	K0III	ND 0.3 in Stellar Beam					Speckle Std & STDVEL	* some cuts to 3000/sec	
1500-2500	poop	"	"	Removed ND 0.3 this time some Cloud helped too					But then seeing got poor for Last half!		
									But some cuts > 3000/sec		

Pg #2 199

Date 1994 JAN 20/21 Observers [KK] ... TM .....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
01090	Comp							Fe Ne Clear	180s
091	HD62509	07 39 12	+28 16	0018		0048W			1800
092	Comp							Fe Ne Clear	180s
CG300 3 11-14 315-16	HD74010	08 36 18	+49 15			2 0020W		4 x 2 x	67ms 133ms
THG FIT 0093	HD87901	10 03 03	+12 27	01 44		0024E			923
094	Comp							Fe Ne Clear	180
FIT 095 THG 095	HD95689	10 57 34	+62 17	0208		0058E			739
096	Comp *redo							Fe Ne Clear	180
097	FLAT			023147				THIC Ap 1/2	3370
098	ST HD95689	10 57 34	+62 17	0330		0041W		1800sec	3370
099	"	"	"	040020		0100W			1103s

Spectr. Temp. ..... Dome Temp./Hum. -14.7°C ..... 73.5% H Transparency Conditions . V.a.r. cloudy 200

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. -15.2°C 74.5%

To overcast clear

To socked in

Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				PCS Speckle	831 41.2° tilt	8u RF	6563Å			But some cnts hit >3500 Å/sec	
1000-2500 (variable)	med poor	1.14	KO III b	(no stellar Filter in)					Std Vel	Then a bit of clearing Cloud by the end 10 neg for THG	
	OK	69	FO		u base	8u fiber Fat hole			seeing test Sculing	thickening cloud	
TIMETAGS Reliably to WORM TO TAG01082.KK4. Now current TimeTAG Disk FULL.											
All last 2 nights DATA TO N.I Speckle to FIT01092 + TAGS											
Yet to do Tonights Fits + Remaining TAGS to new WORM Disk											
100-2500	so so poor	1.36	B7 V						Telluric Std, but prob not usb full here.	some cloud	✓
400-2500	3-4u	1.79	KO II-III			8u FF	6563Å		K1 speckle Then really cloudy	& UMA	✓
1700											
1300-3000	3u	1.79	KO II-NI						K1 speckle	ONLY Read V > 3000 cnts/sec	
700-1700		"	"						"	Cloud again	

pg 3 201

Date 1994 JAN 20/21 Observers K.H./Tu

Emulsion Batches:
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Spectr. Temp.
Focus.....
Spectr. Temp.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Se
Fit01100	Comp							FeNe Clear	180sec		
101	FLAT			0437				JUNG AP 1/2	7200		
102	Comp			13:35			diffuse - IN mask N	FeNe clear	180s	320	

Spectr. Temp. ..... Dome Temp./Hum. ~15.5°C ..... 80.2% Transparency Conditions .. Clearing in 202

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
							6563Å		All To FIT 01100 Now To Perseus		
							"		FLAT yet to backup	N: | speckle.	
320					831/ 41.62	8μ	"			TO perseus	

Comparison Filter Exp.

page 1 203

Date 1994 Jan 22/23 Observers [Bln] Tn / Hlw

Emulsion Batches:
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.....
.....

Spectr. Temp.
Focus ... 7
Spectr. Temp.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr	Se
cc 19312 313	Hartman Comp/stellar					00	41°	Fehr Clear	30/44	5e'7	7/3
cg 30317 →20	4× BD+40 594	03 10 24	+32 16 00	18 30		-0:50 E	+32:37		467 ms		5
cg 30321 →24	4× BD+40 594	03 10 24	+32 16 00		18 45	-0:39 E	"		467 ms		
cg 30325 28	4× HD19509	03 03 06	+36 55 00	18 55		-0:15 E	+37:16		67 ms		
cg 30329 330	2× HD19509	03 03 06	+36 55 00		1900				133		

Spectr. Temp. -100. Dome Temp./Hum. -6.3°C 69% Transparency Conditions ... Fine, some clouds 2nd

Focus ... 7.1.3 Both Films on at start

Spectr. Temp. ..... Dome Temp./Hum. ..... SE off before seeing tests

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Set 7.1.3 T= -12.3°C				CASS CCD	1800 l/mm 38.3° actual	25μ	3730R	3/4	Focus Test		
	5"	8.5	?		G=4065	moderate			Seeing Calibration	Double Star.	
	"	8.5	?		"	300μ			"	" / Dome SW	
									Seeing Test		
									Seeing Test	Through clouds.	
					All to Perseus M.						

105 Ai Wed Thurs
~~Mon~~ / ~~Tues~~

Date 1993 JAN ~~24/25~~ 26/27 Observers ~~S~~ - TH

Emulsion Batches:
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.....

CSS 346 10 secs ahead of U.W.V. Time on Hook Pc

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC19314/15	Comp / Stellar Hurtmann			18 30		0 0	+25	FeNe Clear	30/44
16	BIAS(4)								
17	Comp							FeNe Clear	30s
18	HD37479	05 33 45	-02 38 48	185817		0204E			1799
19	Comp							FeNe Clear	30s
20	HD37479	05 33 45	-02 38 48	19 3117		0135:5E			1485
21	Comp							* BG39 Filter in front of Exp meter now	30s
22	HD37479	05 33 45	-02 38 48	195844		0104E			1747
23	Comp								30s
24	HD37479	05 33 45	-02 38 48	203014					1682
25	~~Comp~~ 2 BIAS(4)								
26	Comp							FeNe Clear	30s
27	HD37479	05 33 45	-02 38 48	210214					334
28	Comp							FeNe Clear	30
29 - 31	FLATS x3					0016E	-2 37	TUNG Clear	27s
32	BIAS(4)								

Spectr. Temp.
Focus ... 7.2
Spectr. Temp.

Exp Mtr.	Se
Note in C... Exp Mtr ... ie	
1340	6
1380	5
1370	
1410	4
145	

Spectr. Temp. ..... Dome Temp./Hum. -16.2°C ... 8.5% Transparency Conditions ... PART Cloudy ... 20%

Focus ... 7.20 ..... winter storm coming from SE fast.

Spectr. Temp. ..... Dome Temp./Hum. -20.4°C ... 42.5%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality S/N
Note in comment field Enter put "Temp sp set" ie [-16.2 sp 7.20] nothing else				CASS CCD	1800 l/mm G=4665	200μ Full	3730Å	3/4	Focus test	@ 408-417 Xpixel Right on	
								1ci			
								5			
3340	poor 6"+	B 6.32	B2V pg					6ci	He Str Blu	> strip photons so can bkgnd guided N to hopefully on Blue part	#99/1
								7ci		Sky Lines e Raw #s 849, 850, 874,	
3380	5"							8ci	He Str Blu		
								9ci			
2370								10ci	He Str Blu		≥100/1
								11c.			
2410	4.5"							12r.	He Str Blu		
								1ci			
								13ci			
145								14		Thick cloud from SE as reported	
								15			
								16, 17, 18ci's		MAX 12 K ADU	
								1c	All to warm 5 persons.		

page 1
267

Date 1994 Jan 30/31 Observers HIW {Vys3}

Emulsion Batches:

cs386 clock is set

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc19333 34	Comp/stellar	Hartman				+0:25	+44:50	FeNe Clear	20/35
35	Bias (4)								
36	Comp							FeNe Clear	35s
37	AC+23 368-59	03 18 13	+23 25 51	19:28:14			+23:46		185C
38	Comp							FeNe Clear	35s
39	Comp							"	"
40	HD36395	05 26 18	-03 41 00	20:15:38			-3:35		607
41	Comp							FeNe Clear	35
42	Bias (4)								
43-45	3x Flats *							Tung ½ Ap	9 sec
cg30331 4	4x HD29587	04 34 30	41 57 00	20:40					67ms
cg30335 6	2x HD 29 587	04 34 30	41 57 00	20:43					133ms
cc19346	Comp							FeNe Clear	35s
47	HD29587	04 34 30	41 57 00	20:46:53		+0:38	+42:08		600s
48	Comp							FeNe Clear	35s

Spectr. Temp
Focus 7.
Spectr. Temp

Exp Mtr

Night Exposure Correction is set

26

204

590

Spectr. Temp. -100°C ..... Dome Temp./Hum. -16.3/54.4% Transparency Conditions ..Scattered Clouds.....

Focus ...7.05..., Tel. focus = 2823 Both dome fans ON since 1715 208

Spectr. Temp. cgan 90.... Dome Temp./Hum. EST2050→ -17.2/59.0 SE fan turned OFF at 1930

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
*Note: Exposure meter fan is off				Cass CCD	1800 G=5115	300μ long	5303Å	3/4	Focus Test	- Dome wheels frozen to rails. Got dome to rotate after 40 minutes of much rocking and 1 can of Methyl Hydrate on wheels.	
								1			
								5			
26	3"	10.5	MO					6	Vys Pgm.	~30 S.N.R.	
								7			
								8			
204		7.97	M1					9	Vys Std.		
								10			
				* - Note: CC19344.fts is dark; source did not fire!				1			
								11			
		7.29	dG2					[illegible]	Seeing Test	Dome W, light NW wind. Some haze.	
		7.29	dG2					[illegible]	Seeing Test		
								12			
590		7.29	dG2					13	Std. Velocity		
								14			

page 2 204

Date 1994 Jan 30/31 Observers HIW {Vys} / [Rm]

Emulsion Batches:
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.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc19349	Comp							FeNe Clear	35s
50	NGC2539 #6	08 05 41	-12 26 45	22:27:21		-0:40	-12:42		2400
51	Comp							FeNe Clear	35s
52	Bias (4)								
53	Comp							"	"
54	HD62509	07 39 12	+28 16 00	23:18:49		-0:02	+28:02		31s
55	Comp							"	35s
56-58	3× Flats							Tung ½Ap	9s
59/60	Comp/stellar	Hartman				βGem	posn	FeAr Clear	30/40s
61	Bias (4)								
62	Comp							FeAr Clear	40s
63	HD62509	07 39 12	+28 16 00	23:55:09		+0:35	+28:02		18s
64	Comp							FeAr Clear	40s
65	Comp							"	40s
66	NGC2539 #6	08 05 41	-12 26 45	00:06:17		+1:19	-12:42		360s
67	Comp							FeAr Clear	40s

Spectr. Temp.
Focus
Spectr. Temp.

Exp. Mtr	Se
42	
10,000	
5000	
75	

Spectr. Temp. ..... Dome Temp./Hum. -17.7/59.8% Transparency Conditions ... some clouds, and haze.

Focus ... 7.05/7.00 210

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CassCCD	1800 G=5115	300μ	5303Å	17			
42		10.96	?					18	Hlw/Rm		
								19			
								1			
								20			
10,000	3"	1.14	KOIIIb					21	Std Vel.	β Gem	
								22			
								11			
				CassCCD	1800 G=6035	300μ	6563Å	23/24	Focus Test	foc = 7.00, T = -18.3	
								1			
								25			
5000		1.14	KOIIIb					26	Std. Vel		
								27			
								28			
75		10.96	?					29	Hlw/Rm		
								30			

page 3 211

Date 1994 Jan 30/31 Observers HIW / [RM]

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC19368	Bias (4)								
69	Comp							FeA-Clear	40s
70	HD84441	09 40 12	24 14 00	01:21:22		0:00	+24:14		112s
71	Comp							FeA-Clear	40s
cg 30 337-341	HD87442	09 59 54	+40 04 00	01:35		+0:05	+39:37		133ms
CC19372	Bias (4)								
73-78	6× Flats							Tung ¼ Ap	8s

Spectr. Temp.
Focus
Spectr. Temp.

Exp Mtr	See
9000	

Spectr. Temp. ..... Dome Temp./Hum. -18°.5/66.2% Transparency Conditions ..... Clear ..... 2.12 .....

Focus ..... 7.00 .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800 G=6035	300μ	6563 Å	1			
								31			
9000		2.98	G1 II					32	Std. Vel.		
								33			
		7.2	AS						Seeing Test Calibration	North Wind, Dome west, -18.6 C	
								1			
								34			
				All to	W.O.R.M.	&	Perseus.				

page 1 of 3

Date 1994 Jan. 31/Feb 1 Observers Sg.s/H/w

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.	Spectr. Temp. / Focus / Spectr. Temp.
CCD1379/80	Comp/Stellar	Hartman						Fe-Clear	40/50		
81	Bias (4)										
82	Comp							FeAr Clear	60s		
83	V440 Per	02 16 54	+54 54	18 30 35					730s	5.00	
84	Comp							FeAr Clear	60s		
85	Bias (4)										
86	Comp							FeAr Clear	60s		
87	VY Per	02 20 19	+58 28	18 55 40					2700s	47	
88	Comp							FeAr Clear	60s		
89	Bias (4)										
90	Comp							FeAr Clear	60s		
91	HD 237190	03 46 10	+58 21	19 52 43					1800s	1.50	
92	Comp							FeAr Clear	60s		
93	Bias (4)										
94	Comp							FeAr Clear	60s		

Spectr. Temp. ..... Dome Temp./Hum. -12.4/53.9 Transparency Conditions 2.14

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	V ~~Ptg.~~ Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800 G=5920	300μ	6400Å		Fours Test		
5600		6.18-6.32	F7Ib						Sgs Program		
47		10.8-11.66	F5-F9						Sgs Program		
750		8.64	G0Ib						Sgs Program		

Date 1994 Jan 31/Feb 1 Observers SGS/HLW

Emulsion Batches:

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Spectr. Temp

Focus .....

Spectr. Temp

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr	S
cc19395	HD25361	03 56 41	+58 22	20 29 43					1200s	1460	
96	Comp							FeAr Clear	60s		
97	BIAS (4)										
98	Comp	~~04 41 05~~	~~+36 32~~					FeAr Clear	60s		
99	HD30282	04 41 05	+36 32	21 08 56					637s	1825	
400	Comp							FeAr Clear	60s		
01	BIAS (4)										
02	Comp							FeAr Clear	60s		
03	HD29260	04 31 26	+18 20	21 33 01					600s	2130	
04	Comp							FeAr Clear	60s		
05	BIAS (4)										
06	COMP							FeAr Clear	60s		
07	SAO 039783	04 42 46	+42 07	21 56 19					1271s	615	
08	COMP							FeAr Clear			
09	BIAS (4)										
10-15	FLATS x6							1/2 Tung			

Spectr. Temp. ..... Dome Temp./Hum. ...-16.2°C/60.6% Transparency Conditions .. Clear ..., then sudden cloud at end.

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

2/6

Exp. Mtr.	Seeing	~~Mtg.~~ Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1460		7.30-8.07	F6Ib-G2Ib	CASS CCD	1800 G=5920	300μ	6400Å				
9825		B=7.9-8.8	F6-G2								
2100		6.33-6.75	F5Ib F9Ib								
616		8.95	G0Ib							CLOUDED OVER DURING EXPOSURE — UNBELIEVABLE!	

pg 2 2/7

Emulsion Batches:

Date 1994 Feb 1/2 Observers HIW {Vys}

cs 386 clock 2 seconds fast

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr.
cc19416/7	Comp/Stellar	Hartman						FeNe Clear	20/35	
418	Bias (4)									
419	Comp							FeNe Clear	35	
420	BD-09 40	00 12 34	-09 14 23	18 32 29		+3:05 W	-8:41		1201	12
421	Comp							"	35	
422	Comp							"	35	
423	HD1326	00 12 58	+43 27 44	19 02 31		+3:25 W	+43:59		600	823
424	Comp							"	35	
425	Comp							"	"	
426	HD1326	00 12 58	+43 27 44	19 23 19		+3:45 W	+43:59		654	856
427	Comp							"	35	
428	Bias (4)									
429	Comp							"	"	
430	AC+69 173	00 21 09	+69 35 29	19 49 04		+4:30	+70:06		2100	7
431	Comp							"	35	
432-4	3× Flats					"	"	Tung V2 AP	9s	

Spectr. Temp.
Focus
Spectr. Temp.

Spectr. Temp. -100°C Dome Temp./Hum. -12.0/59.8% Transparency Conditions Some Clouds, Haze...

Focus 7.05 Dome Fans OFF 218

Spectr. Temp. again 90 Dome Temp./Hum. .....

Exp. Mtr.	Seeing	√Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800/ 5115	300 μm	5303Å	3/4	Focus Test	-11.9°C, foc = 7.05	
								1			
								5			
92		11.0	MO		~20 S.N.R.			6	Vys Pgm	I think this is the last time I'll get this out this season...	
								7			
								8			
823		8.1	MIIe					9	Vys Std	West Side of Piers	
								10			
								11			
856		8.1	MIIe					12	Vys Std.	East Side of Piers	
								13			
								1			
								14			
?		10.54	MO					15	Vys Pgm	Note source has been mis-firing. Check all flats to make sure the signal is there.	
								16			
								17			

* Note: cc19433.fts is a 9 second dark Source did not fire. -02/94 Hlw

pg2 Q19

Date 1994 Feb 1/2 Observers HIW {Vys} / [RM]

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cg30342 -345	4× HD29587	04 34 30	+41 57	20:50					.067s
cg30346 347	2× HD29587	04 34 30	+41 57 00						.133
cc|9435	Comp							FeNe Clear	35s
436	HD29587	04 34 30	+41 57 00	20 53 27		+0:53	+42:08		600s
437	Comp							FeNe Clear	35s
438	Bias (4)								
439-444	6×Flats							Tung ½Ap	9s
445	Comp							FeNe Clear	35s
446	NGC2539 #60	08 05 41	-12 26 45	23 49 02		+0:40	-12:42		1800
47	Comp							"	35
48	NGC2539 #60	08 05 41	-12 26 45	00 21 32		+1:12	-12:42		1800
49	Comp							"	35
50	NGC2539 #60	08 05 41	-12 26 45	00 55 03		+1:43	-12:42		1597
51	Comp							"	35
52	Bias (4)								
53	Comp							"	"

Spectr. Temp
Focus
Spectr. Temp

Exp Mtr.	S
1000	
83	
83	
96	

Spectr. Temp. ..... Dome Temp./Hum. -13.7/65.2 Transparency Conditions ... Clear, then cloudy, then clear + clouds

Focus ..... 7.05 .....

Spectr. Temp. ..... Dome Temp./Hum. .....

220

Exp. Mtr.	Seeing	~~Pig~~ √Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	2"?	7.29	dG2	Cass CCD	1800 5115	300 μm	5303Å		Seeing Test	Dome East light	
		7.29	dG2						"	West wind.	
								18			
1000		7.29	dG2					19	Std. Vel.	Clouds @ 2120	
								20		cleared @ 2350 after 2.5 hours of clouds	
								1			
								17		*Check stats of flats to make sure source didn't misfire.	
								21			
83		11.0	?					22	H/W/Rm		
								23			
83		11.0	?					24	H/W/Rm		
								25			
96		11.0	?					26	H/W/Rm		
								27			
								1			
								28			

* Note: cc19439.fts is another 9 second dark... source misfired -02/94 HIW

pg 3 221

Date 1994 Feb 1/2 Observers H/W {Vys} / [RM]

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc19454	HD81797	09 22 07	-08 14 00	01 33 23		+0:38	-8:37		41s
55	Comp							FeNe Clear	35s
56	Comp			01 48 29				"	"
57	BD-02 3000	09 48 10	-03 13 04	01 56 06		+1:05			181
58	Comp							FeNe Clear	35
59	Bias (4)								
60	Comp							"	"
61	HD95735	10 57 54	+36 38 00	02 36 06		+0:16	+36:08		72l
62	Comp							"	35
63*	Comp							FeNe Clear	35
64*	HD95735	10 57 54	+36 38 00	03 02 42					600s
65*	Comp							"	35
66/67	Comp/Stellar	Hartman				Zenith		"	20/30
68	Bias(4)								
69-73	5 x flats							Tung Clear	5s

Spectr. Temp. ...../..... Dome Temp./Hum. -14°.5/73.0% Transparency Conditions ...scattered clouds.....2.2

Focus .....7.05/7.10.....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	~~Dtg.~~ √ Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
8000	2"	2.0	K3 IIIa	Cass CCD	1800 5115	300 μm	5303Å	29	Std. Vel.		
								30			
								31			
190		10.5	M0					32	Vys Pgm		
								33			
								34			
1927		7.5	M2					35	Vys Std.		
								36			
				Cass CCD	1800 5003	300 μm	5140Å	5		foc = 7.10	
1620		7.5	M2					6	HW		
								7		lost safety backup	
								3/4			
								1			
								7		✓ All okay. (no misfires) 02/94 -AM	

*Note: Headers are wrong for cc19963-5. Clambda 5140 not 5303, grating 1800,5003 not 1800,5115.

All to WORM & Perseus

Page 1 223

Emulsion Batches:

Date 1994 Feb 3/4 Observers [Rm] ... Hlw ... Tm ... [* Still, after 25 years Today]

NA = Jim Thomson ... as in Feb 2/3, 69 Book

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc194 74 75	Comp / Stellar	HuARTmAn				0 0	+39 0	FeAr Clear	30/35
76	BIAS (4)								
77	Comp							FeAr Clear	60s
78	NGC2539 #60	08 05 41	−12 26 45	22 44 26					3000s
79	Comp							FeAr Clear	60s
80	Bias (4)								
81	Comp							FeAr Clear	60s
82	HD81797	09 22 07	−08 14 00	23 ~~57 21~~	23 57 21 START	00 50E			72s
83	Comp								
84	Comp							FeAr Clear	60s
85	HD82509	07 39 12	+28 16 00	00 07 24					~~19~~
86	Comp							FeAr Clear	60s
87	Comp							"	"
88	HD84441	09 40 12	+24 14	00 16 53					73s
89	Comp							FeAr Clear	60s
90	BIAS (4)								

Spectr. Temp. ..... Dome Temp./Hum. ~~-10.7°C~~ ~~H=57.5%~~ Transparency Conditions ... Part. Clear 2.2.4
Focus ..... 7:10 ..... But gusty
Spectr. Temp. ..... Dome Temp./Hum. -11.4°C H=59%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800g/mm G=4820 1st ORDER	300μ	4865Å	3/4c	focus Tgt		
								5c			
~100	5"	V ≈11.0						6c	Hlw/Rw pgm		
								7ci			
								1			
								8			
~~15K~~ 15K cut		V 2.00	K3IIIa					9c	Std vel		
								10ci			
								11			
10K		V 1.14	K0IIIb					12	Std vel		
								13			
								14			
10K		V 2.98	G1IIab					15c	Std vel		
								16			

1900 225

Date 1994 Feb 3/4 Observers [R.m./Bl.] H.Lee/J.Ty

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC19491 –496	FLATS x 6					00 40 E	+23 48	TUNG Clear	
497 498	Comp/Stellar Hartman for			6604	Region		"	FeAr Clear	30/30
499	Bias (4)								
500	Comp							FeAr Clear	60s
501	HD93521	10 42 42	+38 06 00	00 41 04		01 05 E			1400
502	Comp							FeAr Clear	60s
503	HD93521	10 42 42	+38 06 00	01 08 04		00 36 E			1451
504	Comp							FeAr Clear	60s
505	HD93521	10 42 42	+38 06 00	01 36 03		00 09 E			1401
506	Comp							"	60s
507	Comp							"	"
508	HD87901	10 03 03	+12 07	02 08 35					45s
509	Comp							FeAr Clear	60sec
510	BIAS (4)								
511	Comp							FeAr Clear	60sec

Spectr. Temp. ..... Dome Temp./Hum. -11.4°C 59% Transparency Conditions ..Fine..... 226

Focus ...7.10 for G=4820.... 7.00 for G=6065

Spectr. Temp. ..... Dome Temp./Hum. 4865

Exp. Mtr.	Seeing	Tel. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800 G=4820	300μ	4865Å				
				"	1800 in/mm G=6065	300μ	6604Å	3/4c;			
					Still 1st ORDER			1			
								16c;			
5 200	4"	7.04	09.5V					17c	Bln pgm	AIRMASS@ 1.028	
								18c;			
5879		7.04	09.5V					19c	Bln pgm		
								20c			
6300		7.04	09.5V					21c;	Bln pgm		
								22			
								23			
12 K		1.36	B7V					24	Telluric Std		
								25			
								26			

Pg#3 127

Date 1994 Feb 3/4 Observers [Blo.] ... Tn. / Hlw. ...

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC19512	HD103095	11 47 13	+38 26 10	02 23 14					777
513	Comp							FeAr Clear	60s
CG30348 351	HD103095	11 47 13	+38 26 10	=240				4x	67m
CG30352 353	"							2x	133m
CC19514	Comp							FeAr Clear	60s
15	HD93521	10 42 42	+38 06	02 49 58		01:04 W			1400
16	Comp							FeAr Clear	60
17	HD93521	10 42 42	+38 06	03 16 22		01:31 W			1400
18	Comp							"	60
19	HD93521	10 42 42	+38 06	03 42 33		01 57 W			1400
20	Comp							FeAr Clear	60
21	HD93521	10 42 42	+38 06	04 08 54					1172
22	Comp							FeAr Clear	60
23	Bias (4)								
24	Comp							"	"

Spectr. Temp.
Focus
Spectr. Temp.

Exp. Mtr	Se
3140	
7300	3
7600	
5535	
5117	

Spectr. Temp. ..... Dome Temp./Hum. -11.2°C 60% Transparency Conditions Part Cloudy 22.6

Focus 7:00

Spectr. Temp. ..... Dome Temp./Hum. ..... * No FHN night

Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2100		6.45	G8V p	CASS CCD	1800 G-6065	300u	6604A	27	Std Vel		
								28			
	3"	6.45	G8V p			(Above 300u slit)			Seeing Test	*Str west wind Dome West	
							6604A	29c			
7300	3"	7.04	09.5V					30	Bln pgm		
								31			
7600		7.04	09.5V					32	Bln pgm		
								33			
6535		7.04	09.5V					34	Bln pgm	Air mass 1.082 @ end	
								35			
2377		7.04	09.5V					36	Bln pgm		
								37			
								1			
								5			

pg 4 229

Date 1994 Feb 3/4 Observers [BIn] Tn/Hlw

Emulsion Batches:
.....
.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC19525	HD87901	10 03 03	+12 27	04 36 53		3:10 W			87s
26	Comp							Fen-Clear	60
27-32	6 × Flats					3:16 W	+12	Tung + Ap	5s

Spectr. Temp. ..... Dome Temp./Hum. -11.4/63.7% Transparency Conditions ..... THICK Haze., cloudy in quickly. 230

Focus 7.00

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
14 Kilocounts		1.36	87V	Cass CCD	1800 6065	300μ	6604Å	6ci	Telluric	x = 1.607	
								7ci			
								8ci			
		All to Perseus & WORM									

231

pg#1 Fri SAT

Date 1994 Feb 4/5 Observers [Blo] ... T.n

Emulsion Batches:

CCS 386 Goes ahead of W.W.V. [Left Hand way]

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC 19533	BIAS(4)								~~60~~
34/35	Comp/Stellar HORIZON					00	+~~10~~°	Feather Clear	~~60~~/75
36	Comp								60s
37	HD21699	032504	+47 4057	184344		00 01 W			474
38	Comp							Feather Clear	60s
39	Comp							"	60s
40	HD19832	030617	+26 5248	190046		00 43W			676
41	Comp							Feather Clear	60s
42	BIAS(4)								
43	Comp							Feather Clear	60s
44	HD18411	025222	+39 1545	192421		01 16 W			340
45	Comp							Feather Clear	60s
46	Comp							"	"
47	HD25642	035908	+50 0448	193856		0018 W			180
48	Comp							Feather Clear	60s
49	BIAS(4)								

Spectr. Temp. ..... Dome Temp./Hum. -8.6°C H= 59% Transparency Conditions ... Fine ... 2.32

Focus ... 7.00 ..... stdard 480 0 50 1024 4 1 CCDFUNT

Spectr. Temp. ..... Dome Temp./Hum. ..... CCD T-> -100°C

Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800l/mm G=6065	300μ Full Length	6604A				
				Setting & focus unchanged from previous night setting's				3/4			
								5			
8300	2"	5.45	B5V$_m$					6	Bln He weak Pgm	~~LOAS air mass~~	
								7			
								8			
8400	2"	5.79	B8(Si)					9	Bln He weak	1.056 AIR MASS MAX 7800 cts 70K photons Σ Avg above background	S/N 270/1
								10			
								11			
≈10K	<2"	4.70	A2V$_m$					12	Telluric Std ✓	AIR MASS @ start = 1.026 MAX 14K ADU	
								13			
								14			
8500	1"	4.29	A0V$_m$					15	A shell star ? (Bln)		
								16			
								1			

pg #2 233

Date 1994 Feb 4/5 Observers [Bln] JH

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CG30 354 358	HD74587	04 34 30	+41 57					INT 4x	67 mins
359 360	"					00 05E		2x	133 mins
CC19550	Comp								
51	HD29587	04 34 30	+41 57	19 57 30		00 10W			680
52	Comp							Fe Ar Clear	60s
53	Comp							"	"
54	HD35502	05 20 00	-02 54 22	20 16 30		60 04E			137
55	Comp							Fe Ar Clear	60s
56	Comp							"	"
57	HD87901	10 03 03	+12 27	20 49 54		04 35E			54s
58	Comp							Fe Ar Clear	60s
59	BIHS(4)							"	"
60	Comp							Fe Ar Clear	60s
61	HD93521	10 42 42	+38 06 00	20 59 25		04 45 E			270
62	Comp							Fe Ar Clear	60s

Spectr. Temp. ..... Dome Temp./Hum. −9.8°C 65% Transparency Conditions FINE 23U

Focus 7:00

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Pic. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	1"	7.29	dG2			300μ Full length	Image above slit		Seeing Tests	Dome West Lightswind	
				CHSS CCD			6604Å	16			
2400	1"	7.29	dG2					17	Std Vel too		
								18			
								19c			
3550	2"	7.36	B5 IV Sn		(Edit) Read out in 9c			~~20c~~	He Weak	Bln 1.466 @ start AIRmass MAX 11K — Hd pixel of spectrum	
								21			
								22			
16K	4"	1.36 ~~4.36~~	B7 V ~~B7 V~~					23	Telluric Std	AIR ~~mass~~ 1.510 MAX 10K 40A	
								24			
								1			
								25c			S/N
4700	2-3"	7.04	O9.5 V					26c	Bln high AIRmass 1.78 @ start		200/1
								25c			

pg#3 238

Date 1994 Feb 4/5 Observers [Blk] Jm / mKi here & guiding

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc 19563 565	FLATS x3							TUNG Ap 1/2	5sec
566	HD93521	10 42 42	+38 06 00	21 28 58	21 48 58				1200
567	Comp.				21 51 45			FeAr Clear	60s
568	FLAT				21 53 15			TUNG Ap 1/2	5sec
569	HD93521	10 42 42	+38 06 00	21 35 05	~~21 [illegible]~~	03 51E			1170
570	Comp							FeAr Ap 1/2	60s
571	BIAS(4)								
572	HD93521	10 42 42	+38 06	22 17 46		03 28E			1202
573	Comp							FeAr Clear	60s
574	HD93521	10 42 42	+38 06	22 40 43		03 05E			1210
575	Comp							FeAr Clear	60
576	HD93521	10 42 42	+38 06	23 04 05		02 40E			1786
577	Comp							FeAr Clear	60s
578	BIAS(4)								
579	HD93521	10 42 42	+38 06	23 29 05		02 16E			1279
580	Comp							FeAr Clear	60s

Spectr. Temp. ..... Dome Temp./Hum. -10.2°C 67% Transparency Conditions ... cloudy in ... 23h Than mostly clear By 23 hrs

Focus ... 7.00 .....

Spectr. Temp. ..... Dome Temp./Hum. -11.2°C ... 73.3% H

Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800 G 6065	300μ FULL	6604 R	27c		MAX 14K ADU	
~600.								28c;			
4000	3-5"	704	09.5V					28c;	Blk pgm	cloud at times CI not advanced.	S/N
								29c;		3x3 K plots Σ avg = 2	180/1
								1c;			
5000	2-4"	704	09.5V					30c;		First spurt broken cloud (incart)	200/1
								~~28c;~~	5c;		
5350	3"							31c;			> 200/1
								5c;			
5300	3"							6c;	Blk pgm	He line (split)? seen	
~~8~~								7c;			
5100	2-5"							8c;		He line split seen (or emission and absorption)	S/N 300/1

V47 Fri - Sat

V94

Date 1994 Feb 4/5 Observers [Blg] T.n

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC19581 82	FLATS x 2							TUNG Ap 1/2	4sec
83	HD 93521	10 42 42	+38 06	23 55 36		01 49E			1240
84	Comp							FeAr Clear	60s
85	HD 93521	10 42 42	+38 06	00 18 58		01 25E			1262
86	Comp							FeAr Clear	60
87	BIAS(4)								
88	HD 93521	10 42 42	+38 06	00 45 09		00 56E			1440
89	Comp							FeAr Clear	60sec
90	HD 93521			01 12 21		00 30E			1386
91	Comp							FeAr Clear	60sec
→ 92 94	FLATS x 3					00 26E		TUNG Ap 1/2	4sec
95	Comp								
96	HD 87901	10 03 03	+12 27	01 46 16					36s
97	Comp							FeAr Clear	60s
98	BIAS(4)								

Spectr. Temp. ..... Dome Temp./Hum. -11.2°C ... 74% Transparency Conditions ... Thin cloud → haze 238

Focus ... 7.120 .....

Spectr. Temp. ..... Dome Temp./Hum. -10.8C ... 75% incr cloud

Exp. Mtr.	Seeing	Pix. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800 l/mm G=6065	300μ	6604A	11c		MAX = 11.5 K ADU	
5960	3"	7.04	09.5V					12c;	Bkpgm		
								13			
5130								14		cloud again @ end	
								16			
								1c;			
3500	2-3"							17c;		cloud through	
								18			
3000	2-3"							30c;			
								5c;			
								7c;		MAX 11.5 K ADU	
								10c;			
14K		1.36	BTV					11	Telluric Std.	1.18 AIR mass Through cloud - bit	
								13			
								1			
									All To PERSEUS & WORM		

#1 279 Sun / moon

Date 1994 Feb 6/7 Observers [Bln.] ... Tn

Emulsion Batches:

CSS 386 = 9 secs ahead of WWV time

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC19599 CC19600	Comp / Stellar	Hamilton				00 10W	+30°	FeAr Clear	60/70
01	BIAS (4)								
02	Comp							FeAr Clear	60s
03	HD 77327	08 56 48	+47 33 08	00 0809					
04	Comp							FeAr Clear	60s
→ 05 07	FLATS x3					00 00	+47	TUNG Ap 1/2	5s
06	Comp							FeAr Clear	60s
09	HD93521	10 42 42	+38 06	00 2129		01 13E			1383
10	Comp							FeAr Clear	60s
11	HD93521			00 4801					1434
12	Comp							FeAr Clear	60s
13	HD93521			01 1505		00 20E			1335
14	Comp							FeAr Clear	60s
15	BIAS (4)								
→ 16 18	FLATS x3					00 15E	+37 35	TUNG Ap 1/2	5s

Spectr. Temp. ..... Dome Temp./Hum. −10.0°C ... 64% H Transparency Conditions .. Clearing ... now ... 2.4"
(And Dropping Fast) But gusty NW wind
Focus .. 7:00 .....
Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
* [Focus SAYS 7:10 [fib 7:00 actually	Hadar for Set]			CASS CCD	1800 l/mm G-6065	300μ Full Length	6604Å	3/4	focus	3 pixel Rule @ #300 While chip warming to -100C (But Temp dropping Fast)	
								1			
								5			
10K		3:60	A1V					6	* Telluric Std	Note * not a "V" standard is Tel Normalized to object	
								7			
								8		≈15K max	
								9			
3500	VV poor	7:04	09.5V					10 c;	Bln pgm	(Em Features in Helium ?) ≈ 160/1	S/N
								11 c;			
3640	6"							12 c;		1.028 AIR MASS	
								~~13 c;~~			
3550	5-10"							13 c;			
								14 c;			
								1 c;			
								15 c;			

pg #2 241

Date 1954 Feb 17 Observers [illegible] T.S.

Emulsion Batches: .....

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.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
Cc 19619	Comp							FeAr Clear	60s
620	HD87901	10 03 03	+12 27 22	01 51 38		00 36 W			30s
621	Comp							FeAr Clear	60s
622	BIAS (4)								

Spectr. Temp. ..... Dome Temp./Hum. -13.3°C 67% Transparency Conditions ... hazy - sl cloudy ...

Focus ... 7.00 .....

Spectr. Temp. ..... Dome Temp./Hum. .....

242

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800 l/mm G 6065	300u	6604Å	18			
10K								17	Telluric Std	1.185 Airmass	
								16			
								15			

pg 1 2023

Emulsion Batches:

Date 1994 Feb 7/8 Observers [Blm] Tn / Hlw

CSS 386 set to WWV Time tonight

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mir	Se
CC19623 24	Comp / Stellar	Comp	Hurtman			0 0	+39°	FeNe clear	30/48		
25	BIAS (4)										
26	Comp							FeNe Clear	30s		
27	HD37479	053345	-02 38 48	183509		1:30 E			2335	2327	5
28	Comp							FeNe Clear	30s		
29	HD37479	05 33 45	-02 38 48	191731		0:48 E			2300	2138	
30	Comp							FeNe Clear	30s		
31	BIAS (4)										
32 33	FLATS x 2							Tung Clear	200s		
34	Comp							FeNe Clear	30s		
35	HD37479	05 33 45	-02 38 48	20.20.36		0:14 E			428	334	
36	Comp							FeNe Clear	30.		
37	Flat							Tung Clear	200s		

Spectr. Temp.
Focus 7/
Spectr. Temp.

Spectr. Temp. ..... Dome Temp./Hum. -13.7°C 56% Transparency Conditions ... s/hazy ... 244

Focus ... 7.18 ... increasing

Spectr. Temp. ..... Dome Temp./Hum. ..... set to -100°C for CCDT

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800 k/mm G=4065	30u Full Length	3730Å	3/4	Focus	Raw #360-369 (stellar vvsl Red)	
								1c:			
								5c:			
3427	5"	B 6.32	B2V pe					6c:	He Str Bln	clouding in	
								7c:			
2138		B= 6-32	B2V pe					8c:	He Str Bln	guided on column 30: ≈ sdl S/N (whoops)	
								9			
								1c:			
								10		≈ 11 K max, ~~too much~~	
								11			
394		G= 6.32	B2V pe					12	He Str Bln	VERY weak. Totally clouded in on us.	
								13			
								10			

Pg 1 245

Date 1994 FEB. 9/10 Observers ...Sgs/.H.l.w..... Emulsion Batches: .....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc19638/9	Comp/Stelar	Hartman				Zenith		FeAr-Clear	40/50
640	Bias (4)								
641	Comp							FeAr Clear	60s
642	HD237190	03 46 10	+58 21.3	18 40 44					1800s
643	Comp							FeAr Clear	60s
644	Bias (4)								
645	Comp							FeAr Clear	60s 1200
646	HD25361	03 56 42	+58 23	19 20 06					1200
647	Comp							FeAr Clear	60s
648	Comp							FeAr Clear	60s
649	HD30282	04 41 05	+36 32.6	19 49 41					1029
650	Comp							FeAr Clear	60s
651	Bias (4)								
652	Comp							FeAr Clear	60s
653	HD29260	04 31 26	+18 20	20 17 39					600s

Spectr. Temp. ..... Dome Temp./Hum. -15.1/62.0% Transparency Conditions Scattered clouds

Focus 7.03

Spectr. Temp. ..... Dome Temp./Hum. .....

245

Exp. Mtr.	Seeing	~~V-Pig.~~ Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800 G=5920	300μ	6400Å	3/4			
								1			
								5			
	2-3"	8.64	40Ib					6	Sgs Program		
								7			
								1			
								8			
		7.3 - 8.07	F6Ib - G2Ib					9	Sgs		
								10			
								11			
Q660		7.9 - 8.8	F6 - G1					12	Sgs		
								13			
								1			
								14			
3600		6.33 - 6.75	F5Ib - F8Ib					15	Sgs		

Pg 2 '247

Date 1994 FEB 9/10 Observers SGS/HLW

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc19654	COMP							Clear FeAr	60s
655	BIAS (4)								
cg 30360 -3	4× HD29587	04 34 30	41 57 00	20:39		1:00 W	+42:08		.067
cg 30364 -5	2× HD29587	04 34 30	41 57 00	20:40					.133
656	Comp							FeAr Clear	60s
657	HD29587	04 34 30	41 57 00	20:42:35					100.7s
658	COMP							FeAr Clear	60s
659	BIAS (4)								
660	COMP							FeAr Clear	60s
661	SAO 039783	04 42 46	+42 06 48	21 15 37					
662	COMP							FeAr Clear	60s
663	BIAS (4)								
664	COMP							FeAr Clear	60s
665	HD 44990	06 19 48	+07						600s
666	COMP							FeAr Clear	60s

Spectr. Temp. ..... Dome Temp./Hum. -17.0°C/65.4% Transparency Conditions A FEW CLOUDS 248

Focus 7.03

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	V ~~Ptg.~~ Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~ cl lambda	P.H.	Program	Remarks	Quality
				Cass CCD	1800 ℓ/mm 5920	300μ	6400A	16			
								1			
	~3"	7.29	dG2						Seeing Test	Dome West, light N wind	
		7.29	dG2						Seeing Test		
								17			
2820		7.29	dG2					18	Rv Std		
								19			
								1			
								20			
2443		8.95	G0Ib					21	Sgs Program	SOME THIN CLOUDS	
								22			
								1			
								23			
3692								24	Sgs Program		
								25			

Pg 3 2nd

Date 1994 FEB 9/10 Observers SGS/HIW

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC19667	BIAS (4)								
668	COMP							Clear FeAr	60s
669	HD62509	07 39 12	+28 16 00						17s
670	COMP							Clear FeAr	60s
671	BIAS (4)								
672	COMP							Clear FeAr	60s
673	NGC 2539 #60	08 05 41	-12 26 45	23 01 31					2700s
674	COMP							Clear FeAr	60s
675	BIAS (4)								
676	COMP							Clear FeAr	60s
677	HD 87901	10 03 03	+12 27 22	00 07 28					29s
678	COMP							Clear FeAr	
679	BIAS (4)								
680-688	FLATS x 9							1/2 Tung	5s

Spectr. Temp. ..... Dome Temp./Hum. -18.2°C/65.9% Transparency Conditions ... FEW CLOUDS ..... 2.50.

Focus ..... 7.03 .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	✓ ~~Ptg.~~ Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800 ln/mm G=5920	300μ	6400Å	1			
								26			
10K		1.14	K0 III b					27	Rv Std	WOW! BRIGHT STAR...	
								28			
								1			
								29			
302		~11.0						30	Hlw Program	WOW! FAINT STAR...	
								31			
								1			
								~~25~~			
19k			B7V					6	Telluric	ANOTHER BRIGHT ONE...	
								7			
								1			
				All to Perseus & W.O.R.M.							

pg 12 Thurs/Fri → +1994 Feb 11/12

Date 1994 Feb 10/11 Observers H/W/Tn [KK]

Emulsion Batches: .....

.....

* Time noted is WWV Time

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
FIT01103	Comparison				~~Day~~		diff out f/6	FeNe	60
1104	Flat			17:32	Feb 10/11 ↕	diffuser IN	clear f/18		
1105	HD34029	05 09 18	+45 54	x 18 34 45	Feb 11/12		ND 0.3		1800
1106	HD34029	"	"	1907		00 30E	ND 0.3		1800
~~1107~~ 1110	"	"	"	19 38 25		0000	"		"
~~1108~~ 1108	"	"	"	20 09 15			"		"
~~1109~~ 1109	"	"	"	2040		0 04 W	"		"
1111	"	"	"	2113			"		"
1112	Comparison				F18 Stop OUT →		diffuser out (f/6)	FeNe Clear	600s
CG 30367 -370	4x HD57263	07 15 24	+39 11 05					4x	67 ms ea
cg 30371 -72	2x "	"	"					2x	133 ms ea
ce 06818 6819	In board / OUTBOARD Hartmann				None I:-130, set	.2370		ThAr ~~Clear~~	20/2
6820	BIAS (4)								
6821	FLAT							TUNG	10s
6822	Comp							ThAr Clear	10s

Spectr. Temp. ..... Dome Temp./Hum. +63.1% −12°C ← Feb 10/11 Transparency Conditions ... partially cloudy 2.5?

Focus ..... +59.8% −10.4C ← Feb 11/12

Spectr. Temp. ..... Dome Temp./Hum. .....

Dome Fans OFF

Exp. Mtr. "B"	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40'				PTS Fiber-Fed	600/32.2	8μ	4340Å				
1150											
1500-3000	poor	V 0.09	G81 [illegible] +F?	PTS Fiber Fed	600/32.2°	8μ	4340Å		KK	* Focus was OK for this one too Neutral Density filter = 0.3 to reduce signal for PCS.	
1000-2800	poor								KK	* Focus of image optimized	
	OK-Semipoor								KK		
									KK		
1600-2700	Better 50%								KK	Some exp's > 3000/sec	
1100-2500	poor again								KK		
35-55					Note Last FLAT done at end of night.						
Image above 8μ Fiber hole		V 6.39	HD [illegible]	All to Perseus & Warm					Seeing Test	Dome SW, Light NE Brace	
				Echelle CCD	W = 60μm H = 800μm		3990Å		Seeing Test		
[X grating 1200 l/mm]				Echelle 11/+18.0	Xgrating	4370	"	3/4c GRATING HANDLER 5c 3a		Focus = .2370, T = +2.8°C Ech Tilt Xgrating X TILT 18.00_1200_.4370	

Pg 2. 253 Fri Sat

Date 1994 Feb 11/12 Observers [KK] Tn/Hlw

Emulsion Batches:
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Spectr. Temp.
Focus
Spectr. Temp.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr	Sec
1 ce06823	HD34029	05 09 18	+45 54	23 45 13		3:40 W			178	670	
24	Comp							ThAr Clear	10s		
25	HD34029			23 51 40					675	75K	
26	Comp							ThAr Clear	10s		
27	Bias (4)										
28	Comp							ThAr Clear	10s		
29	HD47105	06 31 54	+16 29	00 10 38		3 16 W			1944	1,200	3
30	Comp							ThAr	10s		
31	Comp							"	"		
32	HD56986	07 14 52	+22 10	00 49 14		3 12 30W			1948	2450	3"
33	Comp							"	10		
34	Comp							"	10		
35	HD76644	08 52 24	+48 26 00	01 28 37		2 11 W			1833	2500	2.5
36	Comp							ThAr	10s		
37	BIAS(4)										

Spectr. Temp. ..... Dome Temp./Hum. -12.9°C/63.6% Transparency Conditions ..Clear.....2.5.4...

Focus .....2370.....

Spectr. Temp. ..... Dome Temp./Hum. ..... 2217 Tel Focus for Echelle position

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
6,700		B 0.89	G8III + F?	Echelle CCD			3990Å	4	KT Program	Max ADU ~ 2000	
								~~5~~3			
25K								5ci		max = 8k ADU	
								3			
								1	3955 center of 3rd ORDER FROM TOP		
								3		MAX 12K for comp.	
11,200	3"	B 1.9	AO IV					6ci		@ 3960Å ≈ 340/1 S/N	
								3			
								3			
2450	3"	B 3.9	FO IV					2ci		@ 3960Å ≈ 150/1 S/N	
								3ci			
4560	2"-3"	B= 3.32	A5					4ci			
								3ci			
								1ci			

pg 3 of 5 Fri SAT

Date 1994 Feb 11/12 Observers [illegible] Hlw / Tw

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
ce06838	Comp							ThAr	10s
39	HD95689	10 57 36	+62 17	02 06 09		00 42 W			
40	Comp							ThAr	10s
41	Comp							"	"
42	HD49028	11 18 42	+11 05	02 46 21		01 13 W			2368
43	Comp							ThAr	10s
44	BIAS (4)								
45	Comp							ThAr	10s
46	HD88840	01 22 36	+88 46	03 37 41		11 08 W			1993
47	Comp							ThAr	10s
48	Comp							"	"
49	HD121370	13 49 54	+18 : 54 . 00	04 : 19 : 57		00 05 W			1696
50	Comp							ThAr	10s
51	BIAS (4)								
	Comp								

Spectr. Temp. ..... Dome Temp./Hum. -12.7°C ... 60.6%H Transparency Conditions ... Sl. hazy ... 256 ..

Focus ... 2370 .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	X Grating/ Tilt (1200 l/mm)	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Echelle 18.0°	14370 W= 60 H= 600μ		3990B	7c;			
17000	2"	1.79 V Combined j-79 KONa	KONa					2c.			
									KK pgm	@ 3955 ≈ 250 1 S/N	
								3			
1820	3"	B 4.34	F2IV					4c;	KK pgm	@ 3955Å ≈ 120 1 S/N @ 3955 ≈ 250 1 S/N	
								1c;			
								7cr			
8,200	3-5"	1.9	F2					6c;	KK pgm	≥ 250 1 SN	
								3			
								3		3rd ORDER FROM TOP 3970 - 3941 Å ORDER 144	
3600		B= 3.27	GO					2	KK pgm	SNR ~ 200	
								3		3998 - 3967Å ORDER 143	
								1		About 3Å overlap in this region between ORDERS	

pg #4757 Fri/Sat

Date 1994 Feb 11/12 Observers [KK] Hlw/Th

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
ce06852	Comp							ThAr	10s
53	HD137107	15 19.1	+30 39	04 55 27		0:40 E			2135
54	Comp							ThA	10s
55	HD137107			05 32 53		00 15E			1394
56	Comp							ThA	10s
57	Comp							"	"
58	HD137909	15 23 42	+29 27 00	06 01 25		0:09 W			1437s
59	Comp							ThAr	10s
60	Bias (4)								
→61 63	FLATS x3			~~+ Fib stop for Fib Diffuser IN~~ ≈0659		0:30W	a +30°	ThAr TUNG	160s
FIT0113.FTS	FLAT	for earlier FTS OBS,				Fib STOP in DIFFUSER IN		TUNG Clear	2hrs

Spectr. Temp. ..... Dome Temp./Hum. -14.1°C 63.6% Transparency Conditions Clear 2.5C

Focus 23.70

Spectr. Temp. ..... Dome Temp./Hum. -14.0°C 64.4%H Some cloud coming

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	× Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
				Echelle @ 180°	1200 .4370 W H=600	60u	3990Å				
400	3"	B ~~B/Z~~	G2V						KK pgm	80 SNR	
4											
240	4"	62	G2V					2c	KK pgm		
								3c			
								3			
1045c		B= 3.93	F0p					4c	KK pgm		
								4c		MAX = 9 H ADU.	
						H11	CE Files	To	Workers	Persons.	
1000				PTS Fiber Fed	600 l/mm 32.2°	8u Fiber			4340Å	(Not backed up tonight)	

pg# 154

Date 1994 Feb 13/14 Observers KK / JT

Emulsion Batches:

CSS 386 10secs ahead of WWV Time.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
FIT01114	Comp					Diffuser OUT F18 STOP OUT		FeNe Clear	600
115	Comp (extra)					" "		"	600
116	HD34029	05 09 18	45 54	19 48		00 20 W			
117	"	"	"	20 19	WWV Time 20 36 46				
118	Comp			20 44		Diffuser OUT F18 Stop OUT		FeNe Clear	600
FIT0119	FLAT			20 48		DIFFUSER IN F18 Stop OUT		TUNG Clear	490
CE06864 65	IN BOARD / OUT BOARD HARTMAN							ThAr	20/14
CE06866	Comp			22 12 44				ThAr	10sec
67	HD34029	05 09 18	+45 54	22 14 01		02 31 W			930
68	Comp							ThAr	10sec
69	BIAS (4)								
70	HD 34029	05 09 18	+45 54	22 35 04		07 52 W			914
71	Comp							ThAr	10s
72	FLAT	"	"					Tung	160s
73	Comp							ThAr	10s

Spectr. Temp. ..... Dome Temp./Hum. -5.2°C 67.2% Transparency Conditions ... Cloud → snow ... 2.60
But just improved @ 1945
Focus .....
Spectr. Temp. ..... Dome Temp./Hum. ..... Gusty NW wind

Exp. Mtr. CH B	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
15-25				PTS Speckle	1800/mm 49.1°	8" Fiber	4340Å				
15-27									(Image fine and compact 1st 5 mins Windy (hard to guide)		
600-1300	(Relative) Good to Variable	V 0.09	G8 III + F?						KK pgm	Focus optimized at Cloud at end	
200-800	poor										
15-27											
650-800										4900 secs, CUT SHORT	
-5°C	Set 1.2420			Echelle CCD Ech=180	120/m .4370	W=60μ H=800μ	3990Å	3/4	CCDT →	-100°C	
						W=60μ H=600μ		5 ci			
13000	5"	V 0.09	G8 III + F?					6 ci	KK pgm	MAX 14K (Victoria?) -9°C By 2217 EST @ 300 1 S/N 3rd ORDER	
								2 ci			
13,200	5"							6 ci			
								5 ci			
						Ht left at 600μ					

No 1 Pg #2

Date 1994 Feb 13/14 Observers KK - TH

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CE06874	HD47105	6 31.9	+16 29		23 15 45				933
75	comp	"	"		23 17 25			ThAr	10^s
76	HD 47105	"	"	23:18:52	23 32 37				825
77	comp	"	"					ThAr	10^s
78	comp							ThAr	10^s
79	HD 62509	7 39.2	+28 16	23 39 30		01 23W			608
80	comp								
81	bias (4 average)								
82	Comp							ThAr	10^s
83	HD 83808	9 35.8	+10 21	00 02 10					2566
84	Comp							ThAr	10^s
85									
→ 89	FLATS x 5					06 26W	+10°		160
90	BIAS (4 average)								
FITC1120	FLAT			01 41 58	Diffuser IN FIB OUT			TUNG clear	

Spectr. Temp. ..... Dome Temp./Hum. -10.2° 59% Transparency Conditions ... Sl. hazy - Cloudy 2C2 & Still very gusty from NNW

Focus ..... 2420 .....

Spectr. Temp. ..... Dome Temp./Hum. -11.5°C 62%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2500		1.9	A0V	Echelle 18.0	1200 .4370	60/600	3990Å	6		max 2400 ADU	
2500											
4000		B 2.14	KOIIIb						Std Vel.	2200	
1250	5"	3.5	F5II +A5						Rk pgm	2 100's S/N≈ 3950Å	
						60u 800u	FOR FLATS only	2 c.		MAX 10K ADU	
										All To Worm & Perseus	
				PTS Spectro Setup	18000u 49.1°	8u FF	4340Å			Not backed up same night. done next day	

pg #1 V63 Mon/Tues

Date 1994 Feb 14/15 Observers KK / Tm

Emulsion Batches:

CSS Time set to MATCH WWV Time

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
FIT01124	comp [Done much earlier]			16:00		DIFF OUT		FeNe	600s
121	Comp [Just before Stellar]							FeNe clear	600s
FIT01122	HD34029	05 09 18	+45 54	19:02		00 23 E			1800s
123	"	"	"	19 32 45		00 08 W			"
125	"	"	"	20 03 11		00 38 45 W			"
CG30373 - 76 77 78	"	"	"					4x	67ms
	"	"	"			00 45 W		2x	133ms
FIT01126	Comp			20 44		DIFF OUT F18 stop OUT		FeNe clear	600s
FIT01127	FLAT	(At end of night)				DIFF IN F18 stop OUT		TUNG clear	7200
CEO6841	BIAS(4)	CCDT → -100 15 mins earlier							
92	Comp		Header edit to 0206					ThAr	10sec
93	HD34029	05 09 18	+45 54	21 06 17					474
94	Comp			21 19 14				ThAr	10sec
95	HD34029			21 21 10		01 37 W			599
96	Comp							ThAr	10sec

Spectr. Temp. ..... Dome Temp./Hum. -8.5°C 56.2% Transparency Conditions ... Medium thick cloud ...

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. -10.0°C 60.0%H

2CQ

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
* ~~100 — 1100~~	~~3"~~			PTS Spectle	1800 l/m 49.1°	8u Fiber Fed	4340			* By 1910 cnts To 800/sec	
15-25											
* 100 - ~~1~~200	3"	V 009	G8(II) +F?						KK pgm	variable cloud cnts > 1000/sec by 1912 cnts < 300/sec after 1921	
1000-2000	2-3"			(Low cnts	last 1/3 exp)				only	Thin cloud now	
200-700	3"									cloud thickening	
					ABOVE	8u Fiber Hole			Seeing Test	Dome WNW, no wind	
									" "	Only NEFAMON.	
							All To 1126			Backed up To Perseus & warmed	
500-700 cnts										Not written tonight.	
2420 Focus		unchanged		Dome T= -9.7				Ico			
					W	60u					
					H	600u		3c:			
		V	G8(II)							S 300/1 S/N @ 3950Å	
11,000		0.09	+F?					4c:	KK pgm	MAX = 7K ADU	
								5c:			
3500	3"							4c:	KK pgm	Cloud at end	

pg #2 265

Date 1994 Feb 14/15 Observers K.H./T.G.

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
ce 06897	Comp							ThAr	10s
98	HD62509	07 39 25	+28 16	21 39 25		00 29 E			884
99	Comp							ThAr	10s
ce 06900	HD62509			21 57 04		00 19 E		432	~~1000~~
901	Comp							ThAr	10s
902	BIAS(4)								
~~903~~									
-907	FLATS x 5					02 37 W	+28°	TUNG	160s
906	Comp							ThAr	10s
909	HD83808	09 35 49	+10 21	23 24 35		00 10 E			2613
910	Comp							ThAr	10s
911	BIAS(4)								
912	Comp							ThAr	10s
913	HD95689	10 57 36	+62 17	00 18 29		01 00 E			1200
914	Comp							ThAr	10s
915	FLAT					00 56 W	+19°	TUNG	160s
916	BIAS(4)								

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions ... Cloudy 2.05
- PARTIAL clearing

Focus ... 2.420 .....

Spectr. Temp. ..... Dome Temp./Hum. -10.5°C 68%H

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
				echelle CCD	1200 - .1370	60u 600u	3990Å	5ci			
965	4"	B 2.14	KOIII b					6ci	Stilvel	Thick cloud.	
								3ci			
1000								2c.	Stilvel	Cloud thinner now	
								3			
								1c			
(All to worms Perseus to Here)					W 60u H = 800u			3ci		MAX 9K ADU	
								5ci			
500	4"	3.51	F5II + A5?		H = 600u width 60u			6ci	Kk pym	Dome T -10.7°C	
								5ci			
								1c			
								5ci			
4680	2"-4"	V 1.79	KOII a					2ci	Kk pym	Hazy only	
								5c.			
						60u width 800 Height for FLAT		3c.	CURRENT Optical Disk, new Full.		
								1c.	Remainder to worms & Perseus		

Dyn #1 V67

Date 1994 Feb 16/17 Observers SGS/JTA

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CCD 9689 90	Comp / Stellar					00 00	+43°	FeAr Clear	60/60
91	Bi HS(4)								
92	Comp							FeAr Clear	60s
93	V440 Per	02 16 54	+54 54	18 56 56		0221 W			1124s
94	Comp							FeAr Clear	60s
95	BIAS (4)								
96	Comp							FeAr Clear	60s
97	HD25361	03 56 42	+58 23						2067
98	Comp							FeAr Clear	60s
99	BIAS Sum of 4								
700	BIAS (4)								
701	Comp							FeAr Clear	60s
702	HD29260	04 31 26	+18 20						
703	Comp							FeAr Clear	60s
704	BIAS SUM OF 4								

Spectr. Temp. ..... Dome Temp./Hum. -3.6°C 60% H Transparency Conditions .. Partly cloudy ... 2-6 ...

Focus .. 6.90 .....

Spectr. Temp. ..... Dome Temp./Hum. ..... ~~Grating autocollimance~~

Exp. Mtr.	Seeing	~~Pig~~ V Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
				CASS CCD	1800g/mm G=5920	300u Full2	6400Å	3/4	Focus Tst.	Right on.	
								1			
								5ci			
4361	2"	6.18-6.32	F7Ib					6ci	Sgs Program	Through cirrus S/N ~ 250:1	
								7ci			
								1ci			
								8ci			
(Exp meters typical) >3300		7.30-8.07	F6Ib-G2Ib					9ci	Sgs Program	Still more cirrus	
								10ci			
										USING Tn's BSUM4.BAT (SUM OF 4 BIASES)	
										USING BIAS4.BAT	
								11ci			
		6.33-6.75	F5Ib-F9Ib					12ci		CLOUDS THICKENING TO ALMOST THIN OVERCAST.	
								13ci		EXPOSURE ~~[illegible]~~ CALLED ON ACCOUNT OF CLOUDS	
										USING BSUM4.BAT	

pg#2 269

Date 1994 FEB 16/17 Observers ...Sgs/Tn.....

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
705	BIAS (4)								
706	[redacted] COMP							FeAr Clear	60s
707	HD62509	7 39 12	28 16						329s
708	COMP							FeAr Clear	60s
709-711	FLATS X 3							Tung 1/2	5s
712	BIAS SUM OF 4								
713	BIAS (4)								
714	[redacted] COMP							FeAr Clear	60s
715	HD87901	10 03 03	12 27 00	21 08 50					167s
716	COMP							FeAr Clear	60s
717	BIAS SUM OF 4								
718	COMP							FeAr Clear	60s
719	HD84441	09 40 12	24 14 00			-2h48m E			45s
720	COMP							FeAr Clear	
721	BIAS SUM OF 4								
722-4	FLATS X 3					3h 04m W		Tung 1/2	5s

Spectr. Temp.
Focus.....
Spectr. Temp.

Exp. Mtr.	Se
500	
4K	
400	

Spectr. Temp. ..... Dome Temp./Hum. ..... Transparency Conditions ..... 1.270 ...

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	V ~~Ptg.~~ Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
										USING BIAS4.BAT	
								13ci			
5500		1.14	KO IIb					14ci	RV std	THROUGH THICK CLOUDS	
								15ci			
								16ci			
										USING BSUM4.BAT	
										USING BIAS4.BAT	
								17ci	[redacted]		
14K		0	B				19ci	[redacted]	Telluric	THROUGH THICK CLOUDS	
								20ci			
										USING BSUM4.BAT	
								20ci			
4100		2.98	G1 IIab					21ci	Std Vel	THROUGH THICK CLOUDS [redacted]	
								22ci			
										USING BSUM4.BAT	

Pg 1 271

Emulsion Batches:

Date 1994 Feb 17/18 Observers [Bln] Tn/HIW/Hdy

CSS 386 clock is 10 seconds fast

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc19725/6	Comp/Stellar	Hartman			[OG560 Filter in Comps Tung Beam]			FeAr Clear	20/30
27	Bias (4)								
28	Comp				GG385 (Clear FUV Filter For Stellar)			FeAr Clear	40s
cc19729	Nova Cas 93	23 36 59	+56 57 45	19 25 36		+5:32 W	+57:30		908s
30	Comp							"	40s
31	Nova Cas 93	23 36 59	+56 57 45	19 43 30		+5:52 W	+57 30		962s
32	Comp							"	40s
33	Nova Cas 93	23 36 59	+56 57 45	19 43 30		6 11 W	+57:30		953
34	Comp								40s
35	BIAS(4)								
36 - 38	3× Flats					+6:18 W	+57:30	Tung 4 ap	5s
39	Comp							FeAr Clear	40s
40	HD19275	03 01 05	+74 00 49	20 35 36		+3:07 W	+74:20		182s
41	Comp							FeAr Clear	40s
42	Comp for Nova Cas 93							"	4

Spectr. Temp. ...-100°C..... Dome Temp./Hum. ...+1.0°/76.6%... Transparency Conditions ..HAZY.....272.

Focus .....7.10.....

Spectr. Temp. ..cgain=9.0.... Dome Temp./Hum. .....

Fans Off
350 0 50 1024 4 1 ccdfmt

Note: central row is actually more like 6538Å

Exp. Mtr.	Seeing	~~Pkg.~~ Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~ clambda	P.H.	Program	Remarks	Quality
				Cass CCD	831 ℓ/mm G=3616	300μ long slit	6563Å	1/2	Focus Test	T = 1.0°C, foc=7.10	
								1			
								3			
172	~2"	~10		East side of Pier.				4	[Bln]	Max ADU ~6000 at Hα Strong emmission	
								5			
180		~10						6	[Bln]		
								7			
		~10						8	[Bln]	1.737 Hiam 455	
								9			
								1			
								10			
								11			
~4K		4.87	A2V					12	Telluric	max ADU = 12K	
								13		Humidity on Catwalk = 82% @2040	
								14			
										very faint object (same mag as Neal) @ 1900: 23 36 54 -58 02 45	

Pg 2 277

Date 1994 Feb 17/18 Observers H.L./T.A. [Bln/KK]

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC19743	Nova Cas 93	23 36 59	+56 57 45	20 51 03		07 05W			1297
44	Comp					(OG560 Filter in)		Fe Ar Clear	40s
~~45~~	Nova Cas 93			21 15 28		+7:32 W			1475
45	Bias (4)								
46	Comp							Fe Ar Clear	40s
47	HD14055	02 11 22	+33 23 05	22 14 42		+5:36W			306s
48	Comp							"	40s
cg30379 -82	HD70647	08:17:57	+42:19:37	22:30					.067
cg30383 -84	HD70647	08 17 57	+42 19 37	[illegible]	22:34	-0:16 E	+42:02		.133
CC19749 -54	FLATS x 6					00 12 E	+42°	Tung Ap 1/4	5s
~~CC19744~~ 55 ~~56~~	Bias (4)								
56/57	Comp/Stellar	Hartman						FeNe Clear	20/20
58	Comp							"	60s
59	HD8840B	01 22 36	88 46 00	23 22 06		7:17			1901s
60	Comp							"	60s
61	Bias (4)								

Spectr. Temp. ..... Dome Temp./Hum. +00.3°C 77.4% Transparency Conditions ..v Hazy..... 2.74

Focus ...7.10 / 6.95.....

Spectr. Temp. ..... Dome Temp./Hum. .....

↑ stands for "very"

Exp. Mtr.	Seeing	Pix. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
		12?		CASS CCD	881 G=3616	300μ FullLeft	6563Å	15	MAX12KAM	AIR MASS 2.08 very hazy	
								16		85% on catwalk @ 21 30	
321	2"3'		This observation was lost forever due to a computer failure.				Heurikon had to be reset	17		AIR MASS 2.237 @ 21:31	
								1			
								3			
2530		4.01	AIV					4		~2.3 airmass	
	2"				West Side of pier				Seeing Test	Dome West, No Wind Very Hazy, some clouds	
		6.18	gKS								
										Telescope unbalanced	
No filters ↓				Cass CCD	1800 ℓ/mm G=5000	300μ	5140Å	1	~~Focus Test~~	~~foc = 6.45, T = 0.1°C~~ DCU	
								3/4	Focus Test	foc = 6.95, T = 0.1°C	
								5			
1286		8.6	F					6	KK pgm	East side of pier	
								7	~~KK pgm~~		
								1			

pg 3 ~75

Date 1994 Feb 17/18 Observers Hlw/Tn

Emulsion Batches:
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.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc19762	HD8890 B	01 22 36	88 46 00	23·5907					1905
63	Comp							FeNe Clear	60
64	Comp							"	"
65	HD29587	04 3430	+41 57 00	00:42:15					61
66	Comp							FeNe Clear	60s
67 71	FLATS x 5					+5:50 W	+42:06	TyNG Clear	7s
72	Bias (4)								
	1994 Feb 18/19	Hlw {Vy}							
cc19773/4	Comp/Stellar	Hartman						FeNe clear	20/35

Spectr. Temp. ..... Dome Temp./Hum. +0.1°C/78.2% Transparency Conditions ... Hazy 276

Focus ..... 6.95 Clouds at end.

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	~~Ptg.~~ √Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1436	2"	8.6	F	Cass CCD	1800 l/mm G=5000	300μ long	5140Å	8	KK pgm	Tel East side of Piers	
								9			
								10			
566		7.29	dG2					11	Std. Vel.	Tel Stdl East side of Piers	
								12			
								13		Max 13K ADU	
								1		Hll to Warm S Perseus	
				CASS CCD	1800 l/mm G=5115	300μ	5303Å				
									Focus Test	Clouded in!	

Pg 177

Date 1994 Feb 21/22 Observers Sgs./H.W.

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC19775/6	Comp/Stellar	Hartman						FeAr clear	20/25
777	Bias (4)								
778	Comp							FeAr Clear	60s
779	HD44990	06 19 48	+7:08	23:09:17		3 1 40 W			
780	Comp							FeAr Clear	60s
781	Bias (4)								
782	Comp							FeAr Clear	60s
783	W Gem?	06 29 14	+15:24	23 45 22					524s
784	Comp							FeAr Clear	60s
785	Bias (4)								
786	Comp							FeAr Clear	60s
787	HD62509	07 39 12	+28 16	00 08 12					40s
788	Comp							FeAr Clear	60s
789	Bias (4)								
cg30385-9	HD90861	10 24 17	29 05 35	00:20		-0:10 E			.67
cg30340-1	HD90861	10 24 17	29 05 35		00:27				.133

Spectr. Temp. cgain = 90 Dome Temp./Hum. -1.4°C/63.7% Transparency Conditions Clear, some 27δ aurora borealis

Focus 6.87

Spectr. Temp. Dome Temp./Hum. 480 0 50 1024 4 1 ccd fmt.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800 l/mm G=5920	300μ	6400Å	3/4	Focus Test	T = -1.2, Foc = 6.87	
								1		-WWV clock did not read properly, so time was typed in from red dome clock	
								5			
~3300	~5"	B= 6.5-8.0	F7Iab -K1Iab					6	Sgs	Close to 3/4 full moon.	
~3300								7			
								1			
								8			
390								9	Sgs	S/N ~ 130	
								10			
								1			
								11			
7K								12	RV std.		
								13			
								1			
		V= 6.9	K2III	*Note cg30388 is saturated					Seeing Test	Dome SV, light wind	
		6.9	K2III						Seeing test	clear, T = -3°C	

Pg 2 279

Date 1994 Feb 21/22 Observers Sgs / H|W / LCK / {Vys}

Emulsion Batches: .....

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc|9790	Comp							Clear FeAr	60s
791	HD87901	10 03 03	+12 27 22	00 39 36					32s
792	Comp							Clear FeAr	60s
793	BIAS (4)								
794-799	FLATS x6							1/4 Tung	10s
800/1	Comp/Stellar	Hartman						FeNe Clear	20/35
802	Bias x4								
803	Comp							FeNe Clear	35s
804	HD95735	10 57 54	+36 38	01:20:18		+0:17	+36:08		615s
805	Comp							FeNe Clear	35s
806	Bias x4								
807-812	6 x Flats								

Spectr. Temp. CCAIN = 90 Dome Temp./Hum. -3.1°C/59.17% Transparency Conditions CLEAR 280

Focus 6.87 / 6.92

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800 lines/mm G=5920	300μ	6400Å	14			
5300		1.35	B7V					15	Telluric		
								16			
				CassCCD	1800 l/mm G=5115	300μ	5303Å	3/4	Focus Test	T=-3.9°C/foc=6.92	
								1			
								5			
395	4-5"	V= 7.48	M2V					6	Vys Std.		
								7		Clouded In (Damn!)	
								1			
		All to Perseus & WORM.						11			

281
pg#1 SAT/SUN

Date 1994 Feb 26/27 Observers [B/n] ... T.n.....

Emulsion Batches:
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.....

Note CSS 386 Time (Headers) 20 secs. ahead of U.U.V time

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC 19813 14	Comp / Stellar	HARTMAN	Posns			0 0	+39°	FeAr Clear	30/44
15	BIHS(4)						+	OG560 Filter	
16	Comp							FeAr Clear	40sec
17	HD9275	03 01 05	+74 00 49	19 1257		(146sec exp)	GG385 — UV F. FOR Stellar	Filter Beam	
18	Comp							FeAr Clear	40sec
19	Comp			~~19 54 05~~				"	"
20	NovaCas 93	(not) a field ~~star~~		19 ~~54 05~~					350sec
21 22	FLATS x ~~2~~			~~20 26 53~~				TUNG 4p 1/4	4sec
CC 19823 24	Comp / Stellar	HARTMAN				00 00	+39°	FeNe Clear	30/44
25	Comp							FeNe Clear	30s
26	HD 37479	05 33 45	-02 38 48	21 19 17		02 11W			1225
27	Comp							FeNe Clear	30s
28	BIHS(4)								
29	HD 37479	05 33 45	-02 38 48	21 43 37		02 35W			1220
30	Comp							FeNe Clear	30s

Spectr. Temp. ..... Dome Temp./Hum. -13.8°C ... 52% Transparency Conditions OK -> SL. cloudy 282 and Gusty NW wind

Focus ... 7.20 for 831 l/mm

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Pic. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion λ	P.H.	Program	Remarks	Quality
				CASS CCD	831 l/mm G=3616	300μ	6563Å	3/4		Tel East Side of	
								1		Piers for Observations	
								5			
No exp meter	4"							6	Telluric Std		
								10c:		Nova Cas 93 must be very faint now. could not find it.	
								8			
								11c	Not the	Nova intended.	
								12c.			
T=-14.8°C	Set	7.20		CASS CCD	1800 l/mm G=4065	300μ	3730Å	14/15c:	Focus Test	(Looks good)	
		B						16	Bln He Str	East Side of Piers again	
	5"	6132	R2Type					17ci	Bln He Str		
Exp Meter Started on its own								18ci		> 1000 ADU & Avg sky background (5k photons)	
								1ci			
1952	4.8"							19ci	Bln He Str	~75 S/N	
								20ci			

pg #1 283

Date 1994 Feb 26/27 Observers [Bln] Tn

Emulsion Batches:

Remember, Those Times are 20secs. ahead of correct time

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC19831	HD37479	05 33 45	-02 38 48	22 05 52		02 58W			1246
32	Comp							FeNe Clear	30sec
33	HD37479	05 33 45	-02 38 48	22 29 31		03 19W			1092
34	Comp							FeNe Clear	30s
35	HD37479	05 33 45	-02 38 48	22 49 46		03 40W			1175
36	Comp							FeNe Clear	30s
37	BIAS(4)								
38	HD37479	05 33 45	-02 38 48	23 13 31		04 05W			1226
39	Comp							FeNe Clear	30s
40 → 42	FLATS x 3					04 10W	-02 35	TUNG Clear	200sec
43	BIAS(4)								
CG30 392 → 395	HD85373	09 46 18	38 24 00			00 19W	38°	4x	67msec
CG30 396 397	"							2x	133msec

Spectr. Temp. ..... Dome Temp./Hum. -15.0°C 56.6% Transparency Conditions ... SI hazy ... 28M + Full Moon

Focus ... 7.20 ...

Spectr. Temp. ..... Dome Temp./Hum. -14.5°C 60.0% FANS on By 22:30, SE Off by 23:30

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
* Failed again	6"	B 6.32	B2V po	CASS CCD	1800l/mm G 4065	300μ	3730Å	21c;	Blm HeStr	* 1050 cuts before Failure	
								22			
								23			
								24c;			
								25	Blm HeStr		
								26c;			
								1c;			
	8"							27	Blm HeStr	gusty wind affecting guiding	
								28			
								29			
								1c;			
Seeing much better now?	~~8"~~	6.74	FOV						Seeing test	Dome West,	
									" "		

Pg#1 285

Date 1994 Feb 27/28 Observers [Bln] ... Tn

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CCD 844	BIAS (4)						*		
45	Comp					GG385 UV FOR Stellar Beam	OG560 Filter FOR Sources Comp & Tung	Fe Ar Clear	40sec
46	Nova Cas 93 #1 on Fld	233659	+56 5745	19 09 11					729
47	Comp							Fe Ar Clear	40sec
48	Nova Cas 93 (nope) #2 TRY			19 27 24	Took 3 images with this obj on slit	CG series (F.G)			407
49	nope (Sout: one of 3 in group) #3 TRY			19 3625					417
50	Comp							Fe Ar Clear	40
51	Nova Cas 93 (nope that faint	SSE companion noted in		19 4826	#46 Remarks				
52	Nova Cas 93 yes	23 3659	+56 5745	20 08 10					893
53	Comp								40
54	Nova Cas 93 yes			20 29 07		07 19 W			1094
55	Comp								40
56 60	FLATS x 5					07 25 W	+57 30	TUNG Hp 1/4	4sec
61	BIAS (4)								
62	Comp for Red Star							Fe Ar clear	40

Spectr. Temp. ..... Dome Temp./Hum. -10.8°C 44% H Transparency Conditions ..Fine - incr cloud.... 286

Focus ....7:20..... Note CCD T note at end. CCD Fmt for 831 l/mm

Spectr. Temp. ..... Dome Temp./Hum. Forgot to Set to -100°C 350 0.50 1024 4 1

Telescope East Side

Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
No Exp meter				CHSS CCD	831 l/mm G3616	300μ Full Length	6563Å	1		Used HR21 for offset	
Tonight				*OG560 filter and its mount found out of place at end of this dispersion I think it fell out when Reversing Telescope.		F18 Stop Run at		3		Check as was done Feb 7	
O	<2"							4		Something visible 5" SSE of Nova, lower left screen	
								5	W	#1 ● ~~[illegible]~~ #2 Im aquisn view ● S	
All	3 objs inside FG Box							6	Im Aquistn	Field Drawn in Field Book	
								7		1.76 AIR MASS	
								8		Cloud sometimes too	
								9		CG 3040 Taken	
					MM x ADU 2000			10c	Nova I think now, Barely visible	N & East from Field 1 22 ΔRA -00 00 37 ΔDec -00 00 18 Shld be it	
								11			
								12		HR21 offsets ΔRA -00 00 40 -00 00 15	
								13i			
								14		IIIA X 14K ADU	
								15i			

pg # 267

Date 1994 Feb 27/28 Observers [illegible] Th

Emulsion Batches:

CSS Times = 22 secs ahead of W.W.V. Clock

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC19863	HD18411	02 52 22	+39 15 45	21 03 53		04 21W			111
64	Comp							Fe Ar Clear	40s
65	HD18411			21 09 03					
66	Comp							Fe Ar Clear	40s
67	BIAS(4)								
CG30402 -405	HD 70647	08 17 57	+12 19 37					4x	67.5s
CG30 406 407	4					00 44E	+42°	2x	133s
CC19868 69	Comp/Stellar	Hartman Posns				00 20E	42°	Fe Ar Clear	60/65
70	Comp							Fe Ar Clear	60s
71	HD 93521	10 42 42	+38 06	22 30 58	will Edit SUBTR 22secs From time.	01 42 E			1242
72	Comp							Fe Ar Clear	60s
73	HD93521	10 42 42	+38 06	22 55 46		01 19 30E			1200
74	Comp								
75	BIAS(4)			CSS TIME	CORRECTED				
76	HD93521	10 42 42	+38 06	23 20 11		00 58E			997

Spectr. Temp. ..... Dome Temp./Hum. -12.5°C 48%H Transparency Conditions ... PART Cloudy ... 206

Focus ..... 7.20 .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		4.70	A2V$_m$	CHSS CCD	831 l/m G=3616	300	6563	16c	Telluric Std	Tel still East side ~~T=0.22 H=P~~	
	<2"	4.7c	A2V$_m$								
		4.70	A2V$_m$								
	<2"	6.18	gK5		ABOVE 300$_u$ SLIT			Tel	WEST SIDE NOW Seeing Test	Thin cloud too Dome W, Light NNW and	
									" "	CCD FMT Back to	
Set	7.03	T=-12.3°C		CHSS CCD	1800 l/m G=6065	300$_u$	6604Å	13/14	Focus Test	480 0 50 1024 41	
Exp meter Started to work again								15c			
2006	1-3"	7.04	09.5V					16c	Bln-0* pgm	Thin cloud 1.093 AIR mass	S/N 230/1
								17			
1620	<2"							18			
								19			
								1c$_0$			
1640	1"							20c	Bln-0* pgm		

Pg#3

Date 1994 Feb 27/28 Observers [Blq] T.h

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC19877	Comp							FeAr Clear	60s
78	HD93521	10 42 42	+38 06	23 39 40		00 38E			1033
79	Comp							FeAr Clear	60s
80 → 84	FLATS x 5					00 30E	+37 35	TUNG Ap 1/2	4se
85	BIAS(4)								
86	Comp							FeAr Clear	60s
87	HD87901	10 03 03	+12 27 22	00 ~~28 27~~ 27 36		00 34 W			~~120~~ 27se
88	~~Comp~~ "	"	"	00 28 55				FeAr Clear	~~60s~~
89	Comp							FeAr Clear	60se
90 → 93	FLATS x 4					00 40W	+12°		5se
94	BIAS(4)								

Spectr. Temp. ..... Dome Temp./Hum. -12.9°C 57.5% Transparency Conditions .. PART. cloudy 290

Focus ..... 7.03 .....

Spectr. Temp. ..... Dome Temp./Hum. -14°C 63%

Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
				CASS CCD	1800 G6065	300μ	6604Å	21c;			
1600	2"	7.04	09.5V					~~18c~~;	Bln Ox pgm		
								~~23~~;			
								~~22~~;		MAX 12K ADU	
								1c;	(Big Sp Controle failure)		
								24c.			
		1.36	B7V					25c;	Telluric	14K ADU max	
		"	"					26	"	9K ADU max	
								27			
								28			
								1c.			
				All to Persons & WORM							
Note		CCD Temp not adjusted to usual -100°C									
		Seems it was @ ~-128°C							All night.		

page 1 291

Date 1994 Mar 1/2 Observers HIW

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc19895/6	Comp/Stellar	Hartman	Filters: GG385 in stellar beam			Zenith		Fe Ar Clear	30/44s
897	Bias (average of 4)		(used all nights this page) : OG 560 in comp & flat beam						
898	Comp							Fe Ar Clear	40s
899	Nova Cas 1993	23 36 59	+56 57 45	19 43 32		+6:33 W	+57:30		600s
900	Comp							"	40
901	Nova Cas 1993	23 36 59	+56 57 45	19 57 46		+6:48 W	+57:30		600s
902	Comp							"	40
903	Nova Cas 1993	23 36 59	+56 57 45	20 10 52		+7:00 W	+57:30		600s
904	Comp							"	40
905	Bias (4)								
906	Comp							Fe Ar Clear	40
907	HD87901	10 03 03	+12 27 22	20 45 57		-3:00 E	+12:01		14s
908	Comp							"	40s
909	Bias (4)								
cg 30408 -11	4× HD57263	07 15 24	+39 11 05	21:00					.067
cg 30411 30412	2× "	"	"	21:02		+0:03 W			.133

Spectr. Temp. -100.0°C. Dome Temp./Hum. -3.7°C/66.0% Transparency Conditions Clear 2.9.2

Focus 7.15 350 0 50 1024 4 1 ccdfmt

Spectr. Temp. cgain = 90 Dome Temp./Hum. -5.9°C/+73.9% Fans OFF all night.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	831 l/mm G = 3616	300μ	6563 Å	3/4	Focus Test	T = -3.7, foc = 7.15	good.
								1		78% Relative Humidity	
								3		on Catwalk @ 2000	
O	~3"	<15	emmission	(S.N.R. ≈ 100	at Hα)			4		This is it.	
								5			
O	~3"	<15	em	(S.N.R. ≈ 100	at Hα)			6			
								7			
O	~3"	< 15	em					~~6~~			
								7			
								1			
								8			
100		1.35	B7I					9	Telluric	air mass = 1.6	
								1			
		6.39	K0 III						Seeing Test	Dome SW, No Wind, very clear	
		"	"						Seeing Test	T = -5.6°C, Hum = 72.5%	

Pg. 2 2nd

Date 1994 Mar 1/2 Observers HW {Vys}

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc19910 -15	6× Flats		[Same	filters as	previous page]	Zenith		Tung ½ Ap	4 sec
cc19916/7	Comp/Stellar	Hartman	[No	Filters	from now	on]		FeNe Clear	20/35
18	Bias (Sum of 4)								
19	Comp							FeNe Clear	35
20	Vys 488	07 04 19	52 26 28	22 09 48		+1:52 W	+52:17		1912
21	Comp							"	35
22	Bias × 4								
23 -25	3× Flats					"	"	Tung ½ ap	9s
26	Comp							FeNe Clear	35s
27	~~AC+36 28826~~ unidentified	08 22 03	35 21 00	22 53 59		+1:19 W	+35 03		1888
28	Comp							"	35
29	AC+36 28826	08 22 03	35 21 00	23 30 48		+1:59 W	+35 03		2040
30	Comp							"	35s
31	Bias × 4								
32	Comp							FeNe Clear	35s

Spectr. Temp. -100.0°C Dome Temp./Hum. -5.9°C / 73.9% Transparency Conditions Clear 294.

Focus 7.15 / 7.00 Fans OFF

Spectr. Temp. gain = 90 Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
ccdfmt=350 0		50 1024 41)		Cass CCD	831 l/mm G=3616	300μ	6563Å	11			
ccdfmt=480 0		50 1024 41)		Cass CCD	1800 l/mm	300μ	5303Å	3/4	Focus Test	T=-6.1, foc=7.00	a touch too cold.
								1			
								5		Catwalk humidity 90% at 2240, railing is getting icy.	
0	2-3"	11.3	MO		SNR ~40			6	Vys Pgm		
								7			
								1			
								8			
								9			
45		9?	G or K?					10	~~Vys Pgm~~	N E 10' this one (whoops)	
								11			
0		10.7	MO		S.N.R. ~47			12	Vys Pgm		
								13			
								14			

Pg 3 295

Date 1994 Mar 1/2 Observers HIW {VYS}

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc19933	HD95735	10 57 54	+36 38 00	00 25 50	00 35 50	-0:06 E	+36 08		600s
34	Comp							FeNe Clear	35s
35	Comp							"	"
36	BD+16 2222	11 04 29	+16 05 39	00 57 29		+0:47	+15 36		2220
37	Comp							"	35
38	Bias x 4								
39 - 44	6x Flats							Tung 1/4 ap	9 sec

Spectr. Temp. -100.0°C Dome Temp./Hum. -7.5°C/80.2% Transparency Conditions .. Clear 296

Focus 7.00

Spectr. Temp. again=90 Dome Temp./Hum. -8.1°C/80.3%

$480 0 50 1024 4 1 ccdfmt

Exp. Mtr.	Seeing	~~Ptg.~~ √Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
660	3-4"	7.48	M2	Cass CCD	1800 ℓ/mm G=5115	300μ	5303 Å	15	Vys Std	94% Humidity on catwalk @ 0030	
								16			
								17			
0	3-4"	11.5	M0					18	Vys Pgm	95% Humidity on catwalk @ 0100	
								19			
								1		→ closing due to humidity,	
								20		ice forming on surfaces outside.	
					All to WORM & Perseus.						

page 1 297

Date 1994 Mar 2/3 Observers SGS / HLW

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc1994 5/6	Comp/ Stellar	Hartman						FeAr Clear	30/35
47	Bias (av of 4)								
48	Comp							FeAr Clear	60s
49	HD237190	034610	+58°21.3	19 20 10					1800s
50	Comp							FeAr Clear	60s
51	BIAS (av. of 4)								
52	Comp							FeAr Clear	60s
53	HD25361	035642	+58° 22.97	19 58 56					1262s
54	Comp							FeAr Clear	60s
55	BIAS (av. of 4)								
56	Comp							FeAr Clear	60s
57	HD29260	043126	+18° 20.'4	20 36 10					
58	Comp							FeAr Clear	60s
59	Bias (av. of 4)								
60-62	FLATS X3							Tung V4	15s

Spectr. Temp. -100.0°C. Dome Temp./Hum. -3.2°C/62.3 % Transparency Conditions Hazy, scattered clouds, 296

Focus 6.90

Spectr. Temp. cgain=90 Dome Temp./Hum. 480 050 1024 4 / ccdfmt

Exp. Mtr. busted	Seeing	~~Pig.~~ Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800ℓ/mm G=5920	300μ	6400Å	3/4	Focus	T=-3.1°C foc=6.90	good
								1			
								5			
		8.64	G0Ib					6	Sgs	SNR~145	
								7			
								1			
								8			
		7.30-8.07	F6Ib-G2Ib					9	Sgs	SNR~260	
								10			
								1			
								11			
		6.33-6.75	F5Ib-F9.5Ib					12	Sgs	SNR~240	
								13			
								1			
								14			

Page 2 199

Date ..1994....Mar.2/3 Observers ...Sgs/.Hlw.....

Emulsion Batches:
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Spectr. Temp.
Focus.....
Spectr. Temp.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cl9963	COMP							FeAr Clear	60s
964	HD30282	04 41 05	+36° 33'	21 04 13					1200s
65	COMP							FeAr Clear	60s
66	BIAS (av. of 4)								
67	COMP							FeAr Clear	60s
68	HD44990	06 19 48	+7° 08'	21 37 00					1025s
69	COMP							FeAr Clear	60s
70	BIAS (av. of 4)								
71	COMP							FeAr Clear	60s
72	HD62509	07 39 12	+28° 16'	22 69 29		0h 53mW			
73	COMP							FeAr Clear	60s
74	BIAS (av. of 4)								
75-77	FLATS X3							Tung 1/4	15s
78	BIAS (4)								
79	COMP							FeAr Clear	60s

Spectr. Temp. -100.0°C Dome Temp./Hum. -4.2°C/63.7% Transparency Conditions Scattered clouds 3000. thickening to overcast

Focus 6.90

Spectr. Temp. (gain=90) Dome Temp./Hum.

Exp. Mtr. (BUSTED)	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800 g/mm G=5920	300μ	6400Å	15			
480		7.9-8.8	G1					16	Sgs	SNR ~ 230	
								17			
								1			
								18			
~1600		6.5-8.0	F7Iab-K1Iab					19	Sgs	THROUGH CLOUD? SEEING WORSE → CLOUDED OVER DURING EXPOSURE SNR ~ 400 HOT PIXEL: ROW 853 COLUMN 26	
								20			
								1			
								21			
		1.14	K0IIIb					22	RV Std	THROUGH THICK CLOUDS SNR ~ 275	
~950								23			
								1			
								24		~11 000 MAX ADU CLOUD BREAK	
								1			
								25			

Page 3 of 1

Date 1994 March 2/3 Observers Sgs/HlW

Emulsion Batches:
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Spectr. Temp.
Focus.....
Spectr. Temp.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr. (750)	Seei
CCD 19980	HD62509	07 39 12	+28° 16'	23 51 19		2h32mW			21s	340	
81	Comp							FeAr Clear	60s		
82	Bias (4)										
83	Comp							FeAr Clear	60s		
84	HD 114762	13 07 30	+18° 02'	00 06 08		2h20mE			1200s	450	
85	Comp							FeAr Clear			
86	Comp							FeAr Clear	60s		
87	HD 123782	14 04 24	+49°56'	00 43 50		2h51mE			300s	320	
88	Comp							FeAr Clear	60s		
89	Bias (4)										
90	Comp							FeAr Clear	60s		
91	HD 87901	10 03 03	+12°27'						43s	6X	
92	Comp							FeAr Clear	60s		
93-95	FLATSX3							1/4 Tung	15s		

Spectr. Temp. ...-100.0°C..... Dome Temp./Hum. -4.9°C/+61.4% Transparency Conditions Scattered...cloud.....302

Focus .....6.90.....

Spectr. Temp. ....again=-90.... Dome Temp./Hum. .....

Exp. Mtr. (RUSTEO)	Seeing	~~Pig.~~ Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1340		1.14	kOIIIb	CASS CCD	1800 lm/mm G=5920	300μ	6400 Å	26	RV Std	SNR ~ 335	
								27			
								1			
								28			
450		7.31	dF7					29	RV Std	SNR ~ 170	
								30			
								5			
1700		5.25	M2IIIab					26	RV Std	SNR ~ 360	
								7			
								1			
								8			
6k		1.35	B7V					9	Telluric	SNR ~ 385	
								10			
								11			
				All to WORM + perseus							

Wpg Thurs/Fri

Date 1994 MAR 3/4 Observers [Sys] / HW / Tn

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC1996 97	Comp/Stellar	HARTMAN				00	+41°	FeAr clear	60/60
98	BIAS(4)								
99 CC20000	Comparison HD237190	03 46 10	58 21 18	19 37 42		+2:42 W		FeAr, clear	60s 1800s
1	Comp							FeAr, clear	60
2	Bias (4)								
3	Comp							FeAr clear	60s
4	HD25361	03 56 41	58 22 59	20 14 53		+2:59 W			1223
5	Comp							FeAr clear	60s
6	Comp							"	"
~~7~~	~~HD29260~~	~~04 31 26~~	~~+18 20 24~~	~~20 43 56~~		~~+2:51 W~~			923
7	HD29260	04 31 26	+18 20 24	21 12 11		+3.20 W			977
8	Comp							FeAr clear	60s
9	Bias (4)								
10	Comp							"	"
11	HD30282	04 41 05	+36 32 36	21 37 16		+3:40 W			1302
12	Comp							FeAr clear	60s

Spectr. Temp. -100.0°C Dome Temp./Hum. ~~-00.0°C~~/47.6% Transparency Conditions Clear - incr. cloud 30%

Focus 6.90 Fans OFF

Spectr. Temp. cgdin=90 Dome Temp./Hum. 480 0 50 1024 4 1 ccdfmt

Exp. Mtr.	Seeing	~~Ptg.~~ √Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
				Cass CCD	1800 l/mm G=5920	300μ Full L	6400Å	3/4	focus test	50% Relative Humidity on catwalk @ 1920	good
								1			
								~~5~~ 6 ci			
230	2"-3"	8.64	G0Ib					6	Rm pgm		
								8 ci			
								1			
776	3-4	7.30 -8.07	F6Ib -G2Ib					10 ci	Rm pgm		
								11			
								~~12~~ 3			
787		6.33 -6.75	F5Ib -F9.5Ib					13		-Heurikon crashed after observation, and had to be reset. ∴ Observation was lost..	
1733		6.33 -6.75	F5Ib -F9.5Ib					4	Rm pgm		
								5			
								1			
								6			
593	3'	B= 7.9-8.8	F6 -G1					7	Rm pgm	>200 S.N.R (fast estimate)	

pg 2. 1994

Date 1994 Mar 3/4 Observers [Rm] Tn/Hlw /[Srt]

Emulsion Batches:
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.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc20013	Bias (4)								
14	Comp							FeAr Clear	60s
15	HD44990	06 19 48	+07 08 00	22 08 47		02 29 W			960
16	Comp							FeAr Clear	60s
17	Comp							"	"
18	HD42397	06 05·4	+25 02	22		3:11 W			1200s
19	Comp							FeAr Clear	60s
20	Bias (4)								
21-29	9 × Flats							Tung ¼ Ap	15s
30/31	Comp/Stellar	Hartman			[filter = BG39]			FeNe Clear	30/45
32	Bias (4)								
33 34	Comp HD124897	14 11 06	+19 42 00	23 51 09		03 50 E		FeNe clear	60s 230
35	Comp							FeNe Clear	60s
36	Bias (4)								
37	Comp								

Spectr. Temp. -100° C Dome Temp./Hum. -2.0°C/53.0% Transparency Conditions ... Clear, partial clouds... 30C

Focus ... 6.90 / 6.98

Spectr. Temp. ... Dome Temp./Hum. ...

Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800 ℓ/mm G=5920	300 μ	6400 Å	1			
								9			
7000	3"-5"	6.5 -8.0	F7 Iab -K1 Iab					10 c1	Rmpgm	T Mon 1.485 AIR MASS	
								11 c1			
								12			
468		803	G0 IV					13	Std Vel		
								14			
								1			
								15		~12000 ~~counts~~ ADU	
				CassCCD	1200 ℓ/mm G=5090	250 μ with detker	3950 Å	3/4		T = -2.7°C, foc = 6.98	
				Note 2nd ORDER of 1200 ℓ/mm used.				1/5			
30 K	Pax	-0.04	K2 III					6	Srt Pgm		
								7			
								1			
								8			

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Date 1994 Mar 3/4 Observers [Sr+] Tn/Hlw

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr.	Spectr. Temp. / Focus / Spectr. Temp.
CC20038	HD137759	15 22 42	59 19 00	00 13 52	[filter = BG39]				1760		
39	Comp							FeNe Clear	60s		
40	Bias (4)										
41	Comp							"	"		
42	HD124897	14 11 06	19 42 00	00 53 12		-2:51 E			103s		
43	HD124897	14 11 06	19 42 00	00 55 37		-2:46 E			200s		
44	Comp			[illegible]				FeNe Clear	60		
45	Bias (4)										
46	Comp							FeNe Clear	60.		
47	HD153210	16 52 56 [illegible]	09 32 00	01:10:42					1798		
48	Comp							FeNe Clear	60s		
49	Comp							"	"		
50	HD137759	15 22 42	59 19 00	01 57 49		0233E			1488		
51	Comp							"	60		
52-54	3 × Flats							Tung Clear	180s		
55	Bias (4)										

Spectr. Temp. -100.0°C Dome Temp./Hum. -2.8°C/59.1% Transparency Conditions partially cloudy 308

Focus 6.98 Fans OFF

Spectr. Temp. cgain=9.0 Dome Temp./Hum. 430 0 50 1024 4 1 ccdfmt

Exp. Mtr.	Seeing	Ptg. √Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
~22K	4"-6"	3.29	K2II	Cass CCD	1200ℓ/mm G=5090 2nd order	250µ with dekker	3950Å	9ci	Srt Pgm		
								10			
								1			
								11			
30K		-0.04	K2III					12	Srt Pgm		
54K		-0.04	K2III					13	Srt Pgm	>200/1 S/N @ H&K Did again to up signal.	
								14			
								1			
								15			
9500	6"-8"	3.20	K2III					16	Srt Pgm	80/1 S/N @ H&K bottoms m14, 9300AVG Hotfield	
								17			
								18c			
23000	4"-6"	3.29	K2III					19c	Srt Pgm		
								20c			
								21			
								1			

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Date 1994 Mar 3/4 Observers [Srt] Tn/HIw {Vys}

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
					[Filter = BG39]				
cc20056	Comp							FeNe Clear	60s
57	HD153210	16 52 56	+09 32 00	02 53 39		-3:03 E			1800s
58	Comp								60s
59	Bias (4)								
60	Comp							FeNe Clear	60s
61	HD124897	14 11 06	+19 42	03 38 35		-0:03 E			148
62	HD124897	14 11 06	19 42	03 42 27		0:00			122
63	Comp								
64-66	FLATS x 3							TUNG Ap Clear	25s
67	Bias (av. of 4)								
68/69	Comp / Stellar	Hartmann pairs				01 W	+14 54	FeNe Clear	20/35
70	Bias (sum of 4)								
71	Comp							FeNe Clear	35s
72	HD119850	13 40 36	+15 27 00	04:25:15		1:21 W	+14 59		691
73	Comp							"	35
74	Bias x 4								

Spectr. Temp.
Focus
Spectr. Temp.

Exp. Mtr.	Se
23K	
13K	
25K	

Spectr. Temp. -100.0°C... Dome Temp./Hum. -3.7°C/62.4% Transparency Conditions ... some clouds ... 3/10.

Focus ... 6.98 ...

Spectr. Temp. cgain=90 ... Dome Temp./Hum. ...

Exp. Mtr.	Seeing	~~Pig.~~ √ Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	~~Plt.~~ cache	Program	Remarks	Quality
				Cass CCD	1200 g/mm G=5090 Second Order	250 micron with dekker	3950Å	22		430 0 50 1024 4 1 ccdfmt	
28K		3.20	K2III					23	Srt Pgm		
								24			
								1			
								25			
33K		-0.04	K2III					26	Srt Pgm		
35K		-0.04	K2III					27	Srt Pgm		
								28			
								29;		7820 - 5200Å Red+Blue	
								1			
Set 6.98 T=-4.4°C				Cass CCD	1800 l/mm G=5115	300u FULL	5303	3/4		480 0 50 1024 4 1 ccdfmt	
								1			
								5			
363		8.48	M1					6	Vys Std		
								7			
								8			

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Date 1994 Mar 3/4 Observers HIW/TA {VYS}

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc20075	Comp							FeNe Clear	35s
76	BD+31 2500	13 27 23	+31 38 59	04 50 23		02 21W			190
77	Comp								35
78-83	6× Flats							Tung 1/4 ap	9s
84	Bias × 4								

Spectr. Temp.
Focus.....
Spectr. Temp.

Exp. Mtr.	Se
0	4

Spectr. Temp. -100.0°C Dome Temp./Hum. -4.3°C/65.5 % Transparency Conditions Clear, some scattered clouds

Focus 6.98

Spectr. Temp. cgain=90 Dome Temp./Hum. -4.1°C 66.8

312

Exp. Mtr.	Seeing	~~Ptg~~ √Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800ℓ/mm G=5115	300μ	5303Å	8ci			
0	4"	10.45	MO					9ci	Vys Pgm	too cloudy	
		1						10		Completely clouded in.	
								11			
								1			

page 1 3/13 Sat/Sun

Date 1994 Mar. 5/6 Observers [Rm/Srt] Tn/Hw

Emulsion Batches:
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Spectr. Temp.
Focus.....
Spectr. Temp.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp. Mtr	Se
cc20085/6	Comp/Stellar	Hartman	[Filters: GG385 in stellar beam OG 560 in comp & flat beam]					FeAr clear	30/44s		
87	Bias (avg. of 4)										
88	Comp							FeAr clear	40s		
89	Nova Cas 1993	23 36 59	56 57 45	19 23 30		6:28 W			474s	D	2
90	Comp							"	40s		
91	Nova Cas 1993	23 36 59	56 57 45	19 36 36		6:52 W			123⅓s	C	
92	Comp							"	40s		
93	Nova Cas 1993	23 36 59	56 57 45	20 01 58		7:17 W			1200	D	
94	Coomp							"	40s		
95	Bias (4)										
96	Comp							FeAr clear	40s		
97	HD 18411	02 52 22	+39 15 45	20 29 35					120s	100	2
98	comp							FeAr clear	40s		
99-104	6× Flats							Tung ¼ ap	4 sec		
105	Bias (4)										

Spectr. Temp. -100.0°C Dome Temp./Hum. -0.6°C/55.5% Transparency Conditions clear, slight haze...

Focus 7.10 Fans OFF 314

Spectr. Temp. again=90 Dome Temp./Hum. 350 0 50 1024 4 1 ccdfmt

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	831 2/mm G=3616 1st ORDER	300μ long	6563Å	3/4	Focus Test	T=-0.8°C, foc=7.10	good
								1			
								5			
0	2"?	<16	em.					6	Nova Cas 93 pgm	This is it.	
								7		not really visible on either TV view.	
0		<16	em					8		AIRMASS 1.95	
								9		much fainter than any of stars in nearby triangle	
0		<16	em.					10		Actually slightly visible only in slit view.	
								11			
								12			
								12			
1100	2"	470	H2V					13	Telluric Std.		
								14			
								15			
								1			

page 2715

Date 1994 Mar 5/6 Observers [Rm] Tn/H/W

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc20106	Comp							FeAr Clear	60s
107	HD44990	06 19 48	+07 08 00	20 57 52		+1:25 W			900s
108	Comp							"	60s
109	Bias (4)								
110	Comp							FeAr Clear	60s
111	SAO 039783	04 42 46	+42 06 48	21 27 32		+3·55 W			2400
112	Comp							"	60s
113	Bias (4)								
114	Comp							"	"
115	HD30282	04 4 05	+36 3236	22 15 43		+4 30 W			1487
116	Comp							FeAr Clear	60s
117	Comp							"	"
118	RX Aur	04 54 28	394842	22 46 51		4 53W			1812
119	Comp							FeAr Clear	60s
120	Bias (4)								

Spectr. Temp. ..... Dome Temp./Hum. ~20.1°C 59.2% H Transparency Conditions ..s/hazy..... 316

Focus ... 6.90 .....

Spectr. Temp. ..... Dome Temp./Hum. ~3.0°C ..... 60% H

Exp. Mtr.	Seeing	~~Fig.~~ √ Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality S/N
Note Exp (Meter) Unreliable still				CASS CCD	1800 l/mm G 5920	300μ Full length	6400Å	16			
?		6.5 -8.0	F7 Iab - K1 Iab					17	Rm pgm	T Mon	
								18			
								1			
								19			
457		8.95	G0 Ib					20	Rm pgm		160/1
								21			
								1			
								22			
1600	3"	R= 7.9-8.8	F6 - G1					23	Rm pgm	5 km AX 1.17 Airmass	270/1
								24			
1400	2-3"	7.28 -8.02 ~~7.36~~	F6 - G2					25	Rm pgm		
								26			
								1			

page 3 of 7

Date 1994 Mar 5/6 Observers [Rm] Tn/Hlw

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc20121	Comp							FeAr Clear	60s
122	RS Ori	06 16 31	+14 43 30	23 25 55					1709
123	Comp							FeAr Clear	60s
124	Comp							"	60s
125	W Gem	06 29 14	+15 24 30	00 01 25		04 19 W	~~4 19 W~~		929
126	Comp							FeAr Clear	60s
127	Bias (4)								
128	Comp								
129	HD 62509	07 39 12	+28 16 00	00 26 17		03 19 W	~~3 19 W~~		20s
130	Comp							FeAr Clear	60s
131	Comp							"	60s
132	HD 65934	07 56 06	+26 55 00	05 32 47		3:31 W			1395
133	Comp							FeAr Clear	60s
134	Bias (4)								
135	Comp							"	"

Spectr. Temp. -100.0°C Dome Temp./Hum. -3.0°C/59.8% Transparency Conditions Clear → incr. cloud

Focus 6.90

Spectr. Temp. ..... Dome Temp./Hum. .....

318

Exp. Mtr.	Seeing	√ Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800ℓ/mm G = 5920	300μ long	6400 Å	26			
=400	3"	8.01 -8.88	F5 Ib -G1 Ib					27	Rm Pgm		
								28			
								28			
1533	4"	6.54 -7.38	F5 -G1					29	Rm pgm		
								30			
								1			
								5			
5400		1.14	K0III					6	Std. Vel	Max ADU = 14000!	
								7			
								7			
980	2-3	7.94	G8III					8	std vel		
								9			
								1			
								10			

page 4 3/19

Date 1994 Mar 5/6 Observers [Rm] Tn/Hw

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
cc 20136	HD 84441	09 40 12	+24 14	01 03 31		0156 W			74
37	Comp							FeAr Clear	60
38	Comp							"	4
39	HD89449	10 14 18	1959	01 13 12		1:38 W			360s
40	Comp							FeAr Clear	"
141	Bias (4)								
142	Comp							FeAr Clear	60s
143	HD87901	10 03 03	+12 27 22	01 25 25		01 57W			67s
144	Comp							FeAr Clear	60s
145	Comp							"	4
146	HD62509	07 39 12	+28 16	01 38 37		4:31 W			33s
147	Comp							FeAr Clear	60s
148-156	9 x Flats					+3:21 W	+28:02	Tung 1/4 Ay	15s
157	Bias (4)								
58/59	Comp/Stellar	~~Hartman~~		[Filter =	BG39]			FeNe clear	30/5

Spectr. Temp. ..... Dome Temp./Hum. 2.9°C/60.1% Transparency Conditions .. increasing clouds 3/0

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Pg Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
4400		2.98	G1 II-b	CAS CCD	1800 G-5420	300u	6400Å	11	Std vel		
								12			
								12			
4700	2"-3"	4.79	F6 IV					13	Std vel		
								14			
								1			
								15			
25K		1.36	B7 V					16	Telluric Std	1.32 Air mass	
								18			
								18			
4710		1.14	K0 III					19	Std vel	β Gem at Telescope position comparable to many of the program stars	Good
								21			
								23			
								1			
								3/4	Focus Test	T=-3.5 foc=16.98	Ok

pg. 5 321

Date 1994 Mar 5/6 Observers [Srt] Tn/Hlw

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc20160	Comp				[Filter = BG39]	[For Comp: FLATS & stellar Beam]		FeNe Clear	60s
161	HD124897	14 11 06	19 42 00	02 24 01					141 sec
162	HD124897	14 11 06	19 42 00	02 27 16					435s
163	Comp							FeNe Clear	60s
164	Bias (4)								
165	Comp							FeNe Clear	60s
166	*HD163588	17 51 48	+56 53	02 46 03		03 59 E			1861
167	Comp							FeNe Clear	60s
168 -170	3×FLATS					03 43 E	+57° BG39 Filter IN	TUNG Clear	25s
171	Bias (4)								

Spectr. Temp. -100.0°C Dome Temp./Hum. -3.4°C/62.4% Transparency Conditions Very Hazy, some clouds

Focus 6.98

Spectr. Temp. ..... Dome Temp./Hum. -3.6°C 62.3%

322

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	#1200l/mm G=5090 second order	250 micron with decker	3950Å	5			
41000		-0.04	K2III					6	Srt pgm	max ADU = 7500	
53000		-0.04	K2III					7	Srt pgm	through some clouds	
								8			
								1			
								8c;			
7850	2"	3.75	K2III					9c;	Srt pgm std	cloudy *Note: This spectrum has unusual features, maybe due to CCD malfunction. Possible saturation we didn't notice? Readout failure?	
								10c;			
								10c;			
										CCD Temp = -101.3°C	

Pg #1 323

Date 1994 MAR 7/8 Observers SGS/TN

Emulsion Batches:

CSS 386 Time = 7 secs ahead of W.W.V. time

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC20172	BIAS (4)								
73	COMP							Fe Ar Clear	60s
74	V440 PER	02 16 54	+54 54	19 28 43		4 20 W			1834
75	Comp							Fe Ar Clear	60s
76	Comp							"	"
77	HD237190	03 46 10	+58 21	20 08 25		3 44W			2700
78	Comp							Fe Ar Clear	60s
79	BIAS (4)								
80	COMP							Fe Ar Clear	60s
81	HD25361	03 56 42	+58 23	21 00 00		4 08 W			1635
83	COMP							Fe Ar Clear	60s
82	BIAS (4)								
84	Comp							Fe Ar Clear	60s
85	HD44990	06 19 48	+07 08	21 38 50					1065
86	Comp					~~Fe Ar~~ Clear		Fe Ar clear	60s
87	BIAS (4)								

Spectr. Temp. ..-100.0°C..... Dome Temp./Hum. +2.3°C/78.1% Transparency Conditions MAINLY CLOUDY.....3.24

Focus .....6.88.....

Spectr. Temp. ..... Dome Temp./Hum. ..... CCDT → -100C 480 0 50 1024 1 1 CCDFAST

Exp. Mtr.	Seeing	V Pg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800 l/mm G=5920	300μ Long	6400Å	1			
								3			
1420	2"-3"	6.18-6.32	F7Ib					4	Rmpgm	PHOTOCLOCK →	
								5		SNR > 250	
								5c.			
340	2½"	8.64	G0Ib					6ci	Sgs Pgm	SNR ~ 170 SKIES CLEARING	
								7ci			
								1/4			
								8ci			
945		7.30-8.07	F6Ib-G2Ib					9ci	Sgs Pgm		
								10ci		BIAS WRITTEN BEFORE COMP	
								1ci			
								10ci			
1573		6.5-8.0	F7Iab-K1Iab					11ci		SKY PRETTY MUCH CLEAR	
								12ci			
								1ci			

pg#2 32 5

Date ..1994..MAR.7/8. Observers .....Sgs/Jn.....

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc20188	COMP							FeAr Clear	60s
89	W Gem	06 29 14	+15 25	22 07 11		2 37 W			1205
90	Comp							FeAr Clear	60s
91	Comp							FeAr Clear	60s
92	HD62509	07 39 12	+28 16	22 39 07					10s
93	Comp							FeAr Clear	60s
94	HD62509	07 39 12	+28 16	22 [redacted]06		01 59 W			811
95	Comp							FeAr Clear	60s
96	BIAS (4)								
97	COMP							FeAr Clear	60s
98	HD 84941	09 40 12	+24 14	23 08 01		0 10 W			
99	COMP							FeAr Clear	60s
200	COMP							FeAr Clear	60s
01	HD 65934	07 56 12	+26 55	23 16 42		2 21 W			1302
02	COMP							FeAr Clear	60s
03-08	FLATS x 6							1/4 Tung	15s

Spectr. Temp. +1.3°C/84.6% Dome Temp./Hum. ..... Transparency Conditions .. CLEAR TO A FEW CLOUDS

Focus .....

Spectr. Temp. ..... Dome Temp./Hum. ..... 91% increasing Fog

326

480 0 50 1024 4 1 CCD FMT

Exp. Mtr.	Seeing	V Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800 lm/mm G=5920	300μ	4400 Å	13ci			
1234	2"-3"	6.54-7.38	F5-G1					14ci	Rm pgm		
								15ci			
								15ci		EXPOSURE TIME IS A GUESS	
~1700		1.14	K0IIIb					16ci	Std Vel	B Gem with no filter	
								17ci			
1681		1.14	K0IIIb					18ci	Std Vel	ND=2.0 B Gem with neut. den. filter	
								19ci			
								1ci			
								20ci			
		2.98	G1IIab					21ci	Std Vel		
								22ci			
								23ci			
642		7.94	G8III					24ci	Std. Vel.		
								25ci			
								26ci		~10 000 MAX ADU	

pg# 207 Tues/Wed

Date 1994 MAR 8/9 Observers [Blu] To/Ude

CSS 386 = 8secs Fast. Left that way too.

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc20209	BIAS(4)				(GG385 - UV not used tonight)				
a20020	Comp				[OG560 in	Comp f18	holder]	Fe Ar Clear	40s
20021	Nova Cas 93	23 36 59	+56 57 45	19 21 13		For sources			678
22	Comp							Fe Ar Clear	40s
13	Nova Cas 93			19 39 05		07 06W			1208
14	Comp							Fe Ar Clear	40s
15	BIAS(4)								
16	Comp							Fe Ar Clear	40s
17	HD18 4411	02 52 22	+39 15 45	20 26 12		04 25W			167
16	Comp							Fe Ar Clear	40s
→19 23	FLATS x 5					04 30W	40°	TUNG Ap 1/4	5sec
cc20224	BIAS(4)								
cc20225/26	Comp/stellar	HARTMAN				03 E	37°	Fe Ar Clear	60/65
27	Comp							"	60sec
28	HD93521	10 42 42	+38 06	21 11 10		02 31E			1035
29	Comp							Fe Ar	60s

Spectr. Temp. ..... Dome Temp./Hum. -2.3°C 50%H Transparency Conditions .. PART Cloudy 32°. gusty NW wind

Focus ... 7.13 .....

Spectr. Temp. ..... Dome Temp./Hum. ..... CCDT → -100°C

90 CG/Mm 350 0 50 1024 4 1 CCD

Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~	P.H.	Program	Remarks	Quality
No ccd meter Tonight				CASS CCD	831/mm G=3616	300u Long	6563Å	1			
					~~2nd ORDER~~ 1ST ORDER			3		Star N 5' of Nova Cas 93 offsets Δα -00 00 48 +00 06 12 Δδ -00 00 40 while -00 01 00 guiding	
		Prob 16						4			
	moving poor	Fainter Than V=15						5			
		estimated 10 HR B on IAU BALL									
		Images Taken in Image Aquision View includes nearby triangle of stars to South (called Nova Cas 931) or something similar						6	HIRMES 2.015	Just visible in slit viewer only 1900 nsec int Insensitive to pull the wing	
								7			
								8			
								9			
		4.70	A2 V					~~9~~ 9c	Telluric Std. 1.47 Airmasses		
								10			
		(All 831/grating OBS w/ 74 Tel Eastside)						11 & 9c		12 h ADV max	
				CASS CCD	1800 l/mm G=6065	300u Long	6604Å	1c	480 0 50 1024 4 1 CCD FMT		
T-3.5°C	6.925							12/13	focus test		
								14			S/N
		7.04	09.5 V					15	B/n pgm		170/1
								16			

pg#. 324

Date 1994 MAR 8/9 ..... Observers [Bln] ..Tn .....

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
CC20230	HD93521	10 42 42	+38 06 00	21 33 16		02 08 30E			1055
31	Comp							FeAr Clear	60s
32	HD93521			21 53 39		01 48 E			1077
33	Comp							FeAr Clear	60s
34	BIAS(4)								
35	HD93521			22 15 05		01 25 E			1166
36	Comp							FeAr Clear	60s
37 40	FLATS x 4							TUNG Ap=1/2	4sec
41	HD93521			22 40 52		00 58 E			1235
42	Comp							FeAr Clear	60s
43	Comp							"	"
44	HD 77327	08 56 48	+47 33 03	23 08 48		00 57 W			108 sec
45	Comp							FeAr Clear	60s
46	BIAS(4)								
47	Comp	for HD93521 - over	~~23 16 50~~					FeAr Clear	60

Spectr. Temp. ..... Dome Temp./Hum. -3.9°C 54.9%H Transparency Conditions ... Fine ... 330

Focus .. 6.9.25 .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Pwr. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~ λ	P.H.	Program	Remarks	Quality S/N
	3"	7.04	09.5 V	CASS CCD	1800 l/m.	300 Long	6604	17c;	Bln 0* pgm	< 200/1	
								18			
	3"-4"							19	Bln 0* pgm	≥ 200/1	
								20		42c; more	
								1c.			
								21c;	Bln 0* pgm		
								22c;		4203	
								23c;		MAX 12 K ADU	
	3"							24c;	Bln 0* pgm		
								25c;			
								25c;		4020 more	
		3.60	A1 V					26c.	Telluric Std near zenith		
								27c;			
								1c;			
								~~28~~ 28c;	Final one.	Slightly saturated chip with FeNe, Full 66 secs. (waited with CISC running dark)	

Pg #3 771

Date 19.9.4. MAR. 8/9..... Observers .T.h.....Mki..a.bit

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
Cc 20248	HD 93521	10 42 42	+38 06 00	23 35 15					1201
49	Comp							FeAr Clear	60sec
50	HD 93521			23 58 46		00 20W			1231
51	Comp							FeAr Clear	60sec
52	BIAS(4)								
53	HD93521			00 23 41		00 44W			1175
54	Comp							FeAr Clear	60sec
55	HD93521			00 47 04		01 08W			1201
56	Comp							FeAr Clear	60s
57	HD93521			01 10 00		01 33W			1324
58	Comp							FeAr Clear	60s
59	~~BIAS(4)~~ Comp							"	"
60	~~Comp~~ HD87901	10 03 03	+12 77 27	01 41 39		01 24W			54s
61	~~HD87901 Comp~~							FeAr Clear	60s
62 – 66	FLATS x 5					02 32W	+12°	TUNG Ap 1/2	5 sec
67	BIAS(4)								~~60~~

Spectr. Temp. ..... Dome Temp./Hum. -5.5C ... 60%H Transparency Conditions ..... Fine 3.32

Focus .. 6a 9.25 .....

Spectr. Temp. ..... Dome Temp./Hum. -6.0C ... 64%

Note, Chip saturated with 60sec FeNe @ 23:16, but running CISC for 20mins cures it.

Exp. Mtr.	Seeing	Pix. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality S/N
	2"	7.04	0945 V	CASS CCD	1800 l/mm G-6065	300μ Long	6604A	30i	Bln pgm		>200/1
								31i			
								32			
								31i			
								1i			
	3"							2i	2i		200/1
								3i			
	3"							8i		tracking erratic in RA	
								3			
								9i			
								3			
								1i			
		1.36	B7 V					10i	Telluric Std	Airmass 1.41	
								3			
								11i		DIAx 15K 10μ	
								1i	CCD T still OK - -101.7°C		

page 1 ???? Thu/Fri

Date 1994 Mar. 10/11 Observers [Bln] Tn/Hlw

Emulsion Batches: .....

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CSS 386 Time set to WWV Time

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Exp Mtr	Seeing
cc20268/9	Comp/Stellar	Hartman			[Filters: GG385 OG 560]			FeAr Clear	30/36		
cc20270	Bias (4)										
71	Comp							FeAr Clear	40s		
72	Nova Cas 1993	23 36 59	+56 57 45	19:47:47					553	D	
73	Comp							FeAr Clear	40s		
74	Nova Cas 93	23 36 59	+56 57 45	20:05:45					689	D	
75	Comp							FeAr Clear	40s		
76-78	Flats x 3							Tung 1/4 Ap	4s		
79, 80	2x Bias (4)										
cg40007 -10	4x HD57263	07 15 24	+39 11 05	20:52					.067		
cg40005 -6	HD57263	07 15 24	+39 11 05	20:45							
cc20281/2	comp/stellar	Hartman						FeAr Clear	60/55		
83	Bias (4)										
84	Comp							FeAr Clear	60s		
85	HD93521	10 42 42	+38 06	21 32 36		01 58 E			1249	30	2.3
86	Comp							FeAr Clear	60s		

Spectr. Temp. ..... / ..... Dome Temp./Hum. -2.3°C / 56.7% Transparency Conditions ... Clear ... 334

Focus ... 7.10 / 6.88

Spectr. Temp. ..... Dome Temp./Hum. -3.8°C / ... 63.5% Fans on - Then only N Fan Left on.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	831 ℓ/mm G=3616	300μ slit	6563Å	3/5	Focus Test	Troublesome snow hangig on edge of dome shutters.	
								1			
								7			
0		<15	em					8		weak exposu-e	
								9			
0		<15	em					10			
								1			
		6.39	K0 III						Seeing Test	* Note: All data lost due to bug in software. (except cg4 0001 on c; and cg40007 on c)	
		6.39	K0 III						Seeing Test		
				Cass CCD	1800ℓ/mm G=6065	300μ slit	6604 Å	3/4	Focus Test	T=-3.8 foc=6.88 cg40007 on c)	
								1c			
								5c			
720	2"-3"	7.04	09.5 V					12c	0th Blaggon	1.118 Airmass (mostly Hot cosmic RAY)	S/N 200/1
								13c			

Pg#2 225

Date 1994 MAR 10/11 Observers [B/J] H/A I.T.s

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
cc20287	HD93521	10 42 42	+38 06	21 52 23		0135 E			120
88	Comp							Feat Clear	60s
89	BIAS(4)								
90	Comp							Feat Clear	60
91	HD 77327	08 56 48	+47 33 08	22 36 51		0:30 W			159
92	Comp			"				Feat Clear	60s
cg40014 – CG40017	HD85373	09 46 18	+38 24	22:58			+38°	4 x	67ms
CG40018 – 19	"	"	"			0010W		2 x	133ms
cc20293	Comp							Feat Clear	60s
94	BIAS(4)								
95	HD93521	10 42 42	+38 06 00	23 09 24					120
96	Comp								
97	Bias(4)								
98	HD93521	10 42 42	+38 06 00	23 33 13		0:02 W			1215
99	Comp							Feat Clear	60s

Spectr. Temp. ..... Dome Temp./Hum. -3.9°C 64%H Transparency Conditions .. V. Sl. hazy 33C

Focus .. 6.8.8 ..... some cloud.

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1510	3"	7.04	09.5V	CASS CCD	1800 l/mm G 6065	300μ long	6604A	14ci	Bln O* pgm		
								15ci			
								16ci			
5500		3.60	A1IIn					17ci	Telluric Std at Zenith		
								18ci			
		6.74	FOV			300μ HBOUE SLIT			Seeing Test	NEFMM on	
									"	Dome W S W Medium NW wind	
								19ci			
								1a			
2087		7.04	09.5I					20	Bln O* pgm		
								21			
								1			
2335			09.5V					22	Bln O* pgm		
								23			

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Date 1994 Mar 10/11 Observers Tn/HIW

Emulsion Batches:
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc20300	HD93521	10 42 42	+38 06 00	23 56 20		+0:25W	+37:36		1201
301	Comp							FeAr clear	60s
302	HD93521	10 42 42	+38 06 00	00 19 23		+0:48 W			1204
303	Comp							FeAr clear	60s
304	Bias (4)								
305	HD93521	10 42 42	+38 06 00	00 43 29		1:13 W			1207
306	Comp							FeAr clear	60s
→7 9	FLATs x3							TUNG Ap 1/4	4sec
10	HD93521	10 42 42	+38 06 00	01 08 40		1:38 W			1249
11	~~Comp~~ Bias(4)								
12	Comp							FeAr clear	60s
13	HD93521	10 42 42	+38 06 00	01 33 20		2:03 W			1235
14	Comp							"	60
15	HD93521			01 56 56		02 26 W			
16	Comp							FeAr clear	60
17	BIAS (4)								

Spectr. Temp. -100.0°C Dome Temp./Hum. -4.6°C / 69.2% Transparency Conditions .. Hazy, some clouds

Focus 6.88 NE Fan ON 338

Spectr. Temp. 90 c.gain Dome Temp./Hum. -5.2C 68.5% 480 0 50 1024 4 1 ccdfmt

Exp. Mtr.	Seeing	Ptg. √ Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2400	3"?	7.04	09.5	Cass CCD	1800ℓ/mm G=6065	300μ long slit.	6604A	24	Bln 0* pgm	81% Humidity on catwalk @ 0000	
								25			
2327		7.04	09.5					26	Bln 0* pgm		
								27			
								1			
2350	3"	7.04	09.5					28	Bln 0* pgm		
								29c			
								2		11K HDU max	
2300		7.04	09.5					30c			
								#1			
								5			
2275		7.04	09.5					6			
								7			
2200	3"	7.04	09.5					12c			
								13			
								15c			

Pg # 379

Date ..1994 MAR 10/11..... Observers [Blair] ..Hall/Tea.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp
cc20318	HD93521	10 42 42	+38 06	02 20 28		02 49 W			1166
19	Comp							FeAr Clear	60s
20	HD93521			02 42 21		03 10 W			1100
21	Comp							FeAr Clear	60s
22	HD93521			03 03 45		3:30 W			1095
23	Comp							FeAr Clear	60s
24	Bias (4)								
25	Comp							FeAr Clear	60s
26	HD87901	10 03 03	+12 27 22	03 29 16		4:19 W	+12:01		42s
27	HD87901	10 03 03	+12 27 22	03 30 31		4:22 W	+12:01		82s
28	Comp			~~03 30 31~~		~~4:22 W~~		FeAr Clear	~~60~~
29	Comp							4	4
30	HD93521	10 42 42	+38 06	03 40 43					
31	Comp							FeAr Clear	60s
32	HD93521	10 42 42	138 06	04 04 48		04 47 W			1619
33	Comp								

Spectr. Temp. ..... Dome Temp./Hum. -5.2°C 68%H Transparency Conditions ..S.l. hazy 340

Focus ..... 6.88 .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Rtg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1570	3-4"	7.04	09.5 V	CHSS CCD	1800 l/mm G6065	300µ FULL	6604Å	14	0° pgm Blg		
								15c.			
1620	3-5"							17		AIRMASS = 1.21	
								18			
2400 ??								19			
								21			
								1			
4500		1.35	BT V						Telluric		
10000		1.35	BT V						Telluric		
								21			
								23			
								26c			
1440	4-6"	7.04	09.5 V					26c		AIRMASS 1.558	

Pg#5 741

Date 1994 MAR. 10/11 Observers [Blg.] Hlw/Tg

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc20334	Bias (4)								
35	HD93521	10 42 42	+38 06	04 36 48		0507 W			1207
36	Comp							FeAr Clear	60s
37 –39	Flats x 3					0511 W	+38°	Tung ½ Ap	5 sec
40	Comp							FeAr Clear	60s
41	BD+26° 3835	20 09 36	+26 27 00	05 12 49		3:33 E			1728
42	Comp							FeAr Clear	60s
43	Bias (4)								
44-49	6 x Flats							Tung ½ Ap	4s

Spectr. Temp. ..... Dome Temp./Hum. 60° 71% Transparency Conditions ... s/hazy ... 3/4 2.

Focus ... 6.88 .....

Spectr. Temp. ..... Dome Temp./Hum. .....

Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800 l/mm G6065	300	6604Å	1			
1380	4"F	7.04	09.5 V					30c.	Blu/Grn		
										MaxAdu = 11K	
								5			
470	4"	B = 8.6-9.3	Sp Type B8								
								1			
				All to WORM & Perseus							

pg 1 443 Fri/Sat

Date 1994 Mar 11/12 Observers HIW {VVS}

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc20350/1	Comp/Stellar	Hartman						FeNe Clear	20/32
52	Bias (sum of 4)								
53	Comp							FeNe Clear	35se
54	AC+63 14097	07 25 17	+63 09 16	21 22 21		+1:16 W	+62:59 [illegible]		1672
55	Comp							"	35
56	Bias × 4								
57	Comp							FeNe Clear	35s
58	HD95735	10 57 54	+36 38 00	22 05 43		1:55 E	+36:08		1058
59	Comp								
60	Bias × 4								
61-66	Flats × 6							Tung ½ Ap	10s
67	Bias × 4								
68	Comp							FeNe Clear	35s
69	HD119850	13 40 36	+15 27 00	01 10 09		-1:18 E	+14:53		900s
70	Comp							"	35
71	Bias × 4								

Spectr. Temp.
Focus
Spectr. Temp.
Exp. Mtr. Se

Spectr. Temp. −100.0°C Dome Temp./Hum. −5.1°C/48.3% Transparency Conditions ... part. cloudy → clear

Focus 6.95 Fans off. 344

Spectr. Temp. gain=90 Dome Temp./Hum. −5.9°C/52.1% 480 0 50 1024 4 1 ccdFmt

Exp. Mtr.	Seeing	~~Pig.~~ √Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800 ℓ/mm G=5115	300μ long	5303 Å	3/4	Focus Test	good. Much trouble with spectrograph controller. It took me & Sc 3 hours to fix.	
								1			
								5			
91	2"	10.48	MO					6	Vys pgm	Observing through clouds....	
								7			
								1			
								8			
333	2"	7.48	M2					9	Vys std	Through thick clouds	
								10			
								1			
—	—	—	—	—	—	—	—	11	—	~~2½ hour break for clouds~~	
								1			
								12			
630		8.48	M1					13	Vys std.	Clear now	
								14			
								1			

pg 2345

Date 1994 Mar 11/12 Observers HLW {Vys} Mki = safety backup

Emulsion Batches: .....

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.	Disp Mtr	Seeing
cc20372	Comp							FeNe Clear	35s		
20373	BD-01 2892	13 55 53	-02 10 09	01 31 53		-1:07 E	-2:36		1200	240	
74	Comp							"	35s		
cg40020 -3	4× HD113811	13 01 06	+40 08 00	0200		0:00	+39:38		.06		~2
cg40024 5	2× HD113811	13 01 06	+40 08 00	0203		"	"		.133		
75	Comp							FeNe Clear	35s		
76	AC+56 45927	13 00 34	+56 26 19	02:16:50		+0:43 W	+55:56		1800s	78	
77	Comp							FeNe Clear	35s		
78	Bias × 4										
79	Comp							FeNe Clear	35		
80	BD+31 2500	13 27 23	+31 38 59	02 58 10		+0:47 W	+31:10		1200s	87	
81	Comp							"	35		
82	Comp							"	"		
83	HD119850	13 40 36	+15 27 00	03 23 23		+0:53 W	+14:53		800s	549	
84	Comp										
85	Bias ×4										
86-91	6 × Flats							Tung ½ Ap	10s		

Spectr. Temp. -100.0°C Dome Temp./Hum. -6.0°C/52.9% Transparency Conditions clear 340

Focus 6.95 Fans OFF

Spectr. Temp. cgain = 90 Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800 l/mm G = 5115	300μ long	5303 Å	15			
290		9.73	M0					16	Vys pgm		
								17			
	~2"	7.53	K5III						Seeing Test	Dome SW, no wind.	
		7.53	K5III						Seeing Test		
								18			
78		10.7	M0					19	Vys pgm		
								20			
								1			
								21			
87		10.45	M0					22	Vys pgm		
								23			
								24			
549		8.48	M1	All to Worm E. Perseus - CH/W				25	Vys std		
								26			
								27			

pg 1 347 Sun/Mon

Date 1994 Mar 13/14 Observers HIw {Vys} LCK Cindy Krysac safety backup

Emulsion Batches: .....

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
cc20392/3	Comp/stellar	Hartman		19:12		Zenith		FeNe clear	20/3
394	Bias ×4								
395	Comp							FeNe clear	35s
396	HD36395	05 26 18	-03 41 00	19:22:11		+1:09 W	-3:41 s		600s
397	Comp							FeNe clear	35s
398	Bias ×4								
399	Comp							FeNe clear	35s
400	BD+52 911	04 55 18	+53 00 17	19:42:22		+2:15 W	+53°		1300
401	Comp							"	"
402	Comp							"	"
403	AC+67 2334	06 57 38	+67 21 08	20:18:55		+0:54W	+67°20'		2100
404	Comp							"	35
405	Bias ×4								
406	Comp							"	"
407	Vys 488	07 04 19	+52 26 28	21 01 13		+1:34 W	+52:16'		2200
408	Comp								

Spectr. Temp. -100.0°C ..... Dome Temp./Hum. 0.8°C/71.8% Transparency Conditions ... Hazy, some clouds 3/4
Fans OFF

Focus 6.90

Spectr. Temp. ..Cgain=90 ..... Dome Temp./Hum. ..... 480 0 50 1024 4 1 ccdfmt

Exp. Mtr.	Seeing	~~Ptg.~~ √ Mag.	Sp.	Inst.	Grating/ Tilt	Slit	~~Emulsion~~ lambda	~~P.H.~~ ci	Program	Remarks	Quality
				Cass CCD	1800 l/mm G=5115	300μ long	5303 Å	3/4	Focus Test	CCD warm upon arrival: T=0 8 foc = 6.90	5°c good
								1/5			
248		7.97	M1					6	Vys Std	Increasing clouds.	
								7			
								1			
								8			
~100		9.9	M2					9	Vys Pgm	The Emergency Star	
								10			
								11		87% exterior humidity 2030	
48		11.2	M0					12	Vys Pgm		
								13			
								1			
								14		90% exterior humidity 2110	
42		11.3	M0					15	Vys Pgm		

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Emulsion Batches:

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Date ..... Observers .....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp

Comparison	
Filter	Exp.